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"Scire est nescire, nisi id me
Scire alius sciret."

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RADIUM AND SOME OF ITS PHYSICAL AND THERAPEUTIC PROPERTIES.

BY

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IN 1895 the discovery of X-rays by Röntgen led others to wonder if invisible radiations of a similar nature could be produced by other means than a Crookes' tube. In the following year Monsieur Henri Becquerel, in Paris, experimented in this direction, and by good fortune he first tried a salt of uranium. He took a photographic plate and wrapped it in black paper, which completely shielded it from all light. Upon this he placed his uranium salt, and exposed this to light, his idea being that the fluoresence induced by the light in the uranium might give rise to invisible rays, which, like the X-rays, would pass through the paper and darken the photographic plate. He found that the photographic plate was blackened beneath the salt; but on further investigation, he found that this effect was produced equally well without the uranium being exposed to the light. In short, he discovered that the property of emitting these invisible rays was a property

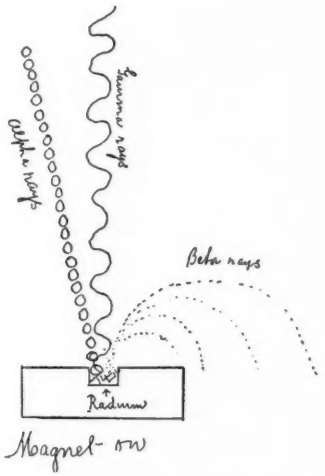
inherent in the element uranium itself. He further discovered that these rays from uranium had the power, like X-rays, of discharging electrified bodies. These discoveries of Becquerel were, in effect, the discovery of what we now know as radio-activity. The term *radio-active* is applied to elements which spontaneously emit invisible rays, that possess the power of passing through opaque substances, which rays have likewise the power of discharging electrified bodies, of acting on a photographic plate, and of causing certain substances to fluoresce. They cause air and other gases to become temporarily conductors of electricity; lastly, they generate heat spontaneously.

Amongst other consequences these discoveries set Madame Curie investigating the radio-activity of various substances. She soon found that the mineral pitchblende was more radio-active than the uranium it contained. The inference was obvious, namely that the pitchblende must contain some substance more radio-active than uranium. Madame Curie therefore set herself to separate by chemical processes the various active substances in a large quantity of pitchblende residues. With the aid of her late distinguished husband, she succeeded firstly in separating a highly radio-active substance, which she called polonium (in compliment to her own nationality). Afterwards she succeeded in separating a substance which she called radium, which proved to be two million times more radio-active than a corresponding amount of uranium.

Up to this period most of us had been taught, and we believed, that what we call matter is composed ultimately of atoms, such atoms being indivisible entities. But since then the work of Sir J. J. Thompson, Rutherford, Sir William Ramsay, and Soddy has clearly proved that the atom of radium is disintegrating, and, moreover, that it is disintegrating spontaneously at a steady rate, which cannot be either accelerated or retarded by any known means.

It is precisely the radiant energy evolved by this disintegration which is of value to us in medicine. The quantity of radium which is obtainable is so small (being only one part in five millions of the best pitchblende) that it has never been experimented with

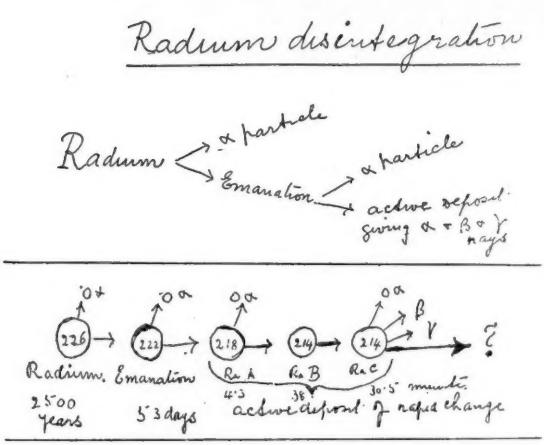
as a drug to any extent, and its therapeutical properties in this respect are consequently unknown. But before saying anything more about its medical application, I will describe shortly this disintegration.



Deviation of Rays in a strong magnetic field.

The radium atom first gives off an atom of helium at a high velocity, about twenty thousand miles per second. This is called the alpha ray, and is beautifully illustrated by a little instrument devised by Sir William Crookes, and called the spintharoscope. The remainder of the atom evolves as a gas, which is called its emanation. This emanation in turn decomposes rapidly, losing half its energy in about four days. It also gives off an alpha particle, and after two decompositions finally results in radium C, which gives off three radiations, known as the alpha, beta, and gamma rays.

It is these three different kinds of rays that are important in the therapeutic effects of radium. But before proceeding to give an account of the effect of these rays upon certain diseases, I will give some detals as to their physical properties.



The alpha rays, as already mentioned, consist of atoms of the apparent mass of twice that of a hydrogen atom. They have been proved to be atoms of helium, travelling at the high velocity of twenty thousand miles per second. Their power of penetrating matter is small, and a sheet of ordinary writing paper is sufficient to stop them. They represent 80 per cent. of the total energy given out by the radium. They have great power in ionising gases, that is, in rendering gases conductors of electricity. When radium is contained in small sealed, glass tubes none of these alpha rays get outside; and even when radium is spread upon metal plates, and kept fixed by a very thin varnish, even so only a small proportion of these rays are able to pass through the varnish. It thus happens that most of the medical effects of radium are the result of the beta and gamma rays. To sum up, the alpha rays affect a photographic plate, ionise gases, produce brilliant fluoresence on a sulphide of zinc screen, and are deflected to a very slight extent by a powerful magnet in a direction which shows them to carry a positive charge, and they represent 80 per cent. of the total disintegration of the radium atom. Being so easily stopped by a thin layer of

matter, it was to be expected that their action on the skin would be powerful.

The next rays are called the beta rays. These are also material particles which have been called corpuscles. Their mass is one thousand times less than the size of an atom of hydrogen. They are negatively charged, travel at varying velocities, from half the velocity of light up to nearly the velocity of light. They are much more penetrative than the alpha rays, and it requires one centimetre thickness of lead to stop all of them. They are easily deflected by a magnet, and indeed are just like the cathodal ray in a Crookes' tube, except that they travel at a much higher velocity. These rays penetrate glass and metal in proportion to their velocities, and consequently a varying density and thickness of screens can filter out the less penetrative beta rays in an infinite variety.

Relative sizes Alpha and Beta Rays.

The Gamma Rays.—These rays differ entirely from the alpha and beta rays already described in being no doubt a wave disturbance in the universal ether ; they do not consist of projected material particles. They are apparently exactly the same as the X-rays of a Crookes' tube, except that they are much more penetrating. No X-ray can be produced, even with the highest vacuum tube, to approach the gamma rays in penetrability. Like the X-rays, they are not deflected by the most powerful magnet ; they are not refracted, nor do they suffer any diffraction. Like the X-rays, their wave length is unknown.

Another remarkable fact accompanying the disintegration of radium is the emission of heat. The chemical reaction which evolves the largest amount of heat is the union of hydrogen and oxygen to produce water. Radium in its transformation gives

out four million times more heat than is given out by the explosive combination of a similar quantity of oxygen and hydrogen. All these rays from radium act upon a photographic plate and discharge electrified bodies; they also act upon living cells destructively if exposure is sufficiently prolonged. They will cause diamonds to shine in the dark (although paste will not shine), and barium platinocyanide and willemite (a silicate of zinc), also fluoresce.

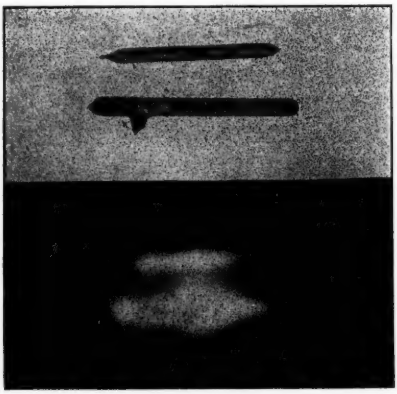


Photo showing Radium shaken along a tube and action of tube on photo plate.

Considering the before-mentioned properties of this remarkable substance, it seemed almost certain that it would prove of some use in medicine. Becquerel's accidental experience of a severe burn on his skin produced by carrying a tube of radium in his waistcoat pocket clearly demonstrated that it had some powerful physiological effects, and it only remained for the medical profession to discover in what cases such action would produce beneficial effects and in what manner radium could be best applied.

In April, 1903, I bought two small glass tubes, each said to contain five milligrammes of radium bromide. At that time I had no data to guide me as to what use it might be in medicine,

nor how to apply it most effectively. It so happened that a patient at Charing Cross Hospital was brought to me from the Skin Department with a large rodent ulcer underneath the right lower eyelid. This ulcer had resisted X-ray and other treatment. It occurred to me to experiment upon it with radium; and as this was the first case ever treated with radium in Great Britain, I shall give a short description of the method adopted.

The ulcer measured one inch from above downwards, and three-quarters of an inch across. On May 21st, 1903, a tube with five milligrammes of radium bromide was applied for fifteen minutes to the upper border of the ulcer. The radium was first shaken down to the end of the tube, and then this end was applied directly to the part, and secured in position by a strip of rubber plaster attached to the healthy skin. On May 22nd the same tube was applied, for the same time, to another part of the ulcer, and on May 29th (that is eight days after the first application) some improvement was noticed in the parts treated. Treatment was continued over the various parts of the ulcer; on June 11th and 26th two tubes were applied, and the last application took place on July 10th, 1903. On December 7th the patient was quite cured; the skin became smooth and normal in appearance over the part, and it has remained so ever since, that is to say for nearly seven years. This result was very encouraging.

My next cure was that of a patch of tuberculosis verrucosa on the hand of a boy aged ten years. After four applications of about twenty-five minutes each time this was also cured.

The next case was one of recurrent carcinoma of the breast, where there were some small spots and nodules of recurrence. Of course the amount of radium used was small. At the same time, from the effect on the very small spots of recurrence the conclusion arrived at was that carcinoma cells were very resistent to radium, and that it was never likely to be a cure for this dire disease. This was in July, 1903. Again, in the same month, a case of rodent cancer in the right side of the nose was treated in a similar manner by these two tubes, and was completely cured.

Another case, treated in October, 1904, serves to illustrate the great utility of radium in rodent cancer of the eyelids. This patient was sent to me by Dr. Tempest Anderson of York. She had a rodent cancer at the inner canthus of the left eye, which had resisted previous treatment. Its situation rendered its removal a matter of great difficulty on account of its close proximity to the tear sac. On October 21st four tubes, each containing five milligrammes of radium, were applied to the ulcer for half an hour. On October 24th the same tubes were again applied for

half an hour. On October 28th they were applied for twenty minutes. There had been some slight reaction, and improvement was noticed. On November 8th there was some reaction, and no further application was made at this time. On November 15th the induration was greatly diminished, but the parts were red and irritable. Five tubes were put on for twenty minutes. On November 30th much improvement was evident, and four tubes were applied for half an hour. By December 13th the ulcer was nearly well, only a small speck in the centre remaining, to which two tubes were then applied for half an hour. In the following year, on January 26th, and again on May 3rd, Dr. Tempest Anderson reported the case as perfectly cured.

The next case is of interest on account of the constitutional effects of the radium on the patient. On July 29th a case of rodent cancer of the face came under my care. It was a case of twenty-five years' standing, in which two operations had been performed, and a variety of treatments had been tried in vain. It was too extensive a case for me to hope to cure with the small amount of radium at my disposal. However, by going over the surface, in turn from place to place, quite a remarkable improvement resulted. Unfortunately I had to go abroad, and the treatment was discontinued for a time. On my return treatment was resumed vigorously, and this led to only a partial arrest of the disease. On two occasions a very severe reaction followed the application, which in many respects appeared like an attack of erysipelas. There was headache, sickness, high temperature, and a large area round the rodent was of a red colour. I sent some of the blood from the ulcer and some of the discharge to Dr. Bulloch, of the London Hospital, who reported it absolutely sterile. It is evident that in this case the symptoms were due to some absorption, the result of the radium application, possibly owing to the exposure being too prolonged. Later on, in the hope of arresting the progress of this disease, emanations of radium dissolved in water, supplied by Sir William Ramsay, were injected subcutaneously in the neighbourhood of the ulcer. The patient was also made to wear a pad of thorium hydroxide. All were of no avail, and she died eventually of deep extension of the disease. In this connection it may be remarked that further experience has shown that, in severe cases of malignant disease, injections of the emanation or swallowing it in large quantities has failed to produce any good effect.

Since that time I have treated a large number of cases with radium. Small epitheliomata of skin and tongue can be cured; moles, nævi, port wine stains, can be removed; and several small rodent ulcers have been cured by one application.

Quite recently I have found that radium cures dermatitis

from X-ray burns. The method adopted is to place a tube with about twenty milligrammes of radium on to the part for ten minutes, and to renew this application the second day. Slight reaction usually begins about the fifth or sixth day, reaching its height on the eighth. A crust may then be formed, and the inflammatory process gradually subsides. In about six weeks either a great improvement or a cure results. How far these terrible cases of severe and extreme X-ray burn, of which you have doubtless heard, may be benefited by radium treatment I do not know, as the quantity of radium I possess is too small to be employed in such cases ; but from the excellent effect it has upon small lesions, it seems likely that with larger quantities, equally satisfactory results might be obtained in severe cases. However, one may hope that the adoption of proper protection by those working with X-rays will prevent these disastrous cases from ever occuring in future.

One more reference to my own work. In September, 1903, I first tried radium in a case of a granulation of the eyelids. This experiment did not meet with any success, which may have been due to the small quantity of radium then available, and to inexperience in its use. It was not until February, 1906, when Mr. Arnold Lawson sent me a case of spring catarrh of the eyelids that I made any further application of radium to diseases of the eye. This disease, which is not very common in this country, has been hitherto incurable. The patient was a boy, aged 13, who had suffered for eighteen months. Mr. Lawson had tried a variety of treatments for about a year without any effect. On February 9th the upper lid of the left eye was everted, and three radium tubes, containing altogether thirty-nine milligrammes of radium bromide, were held in contact with the granulations for fifteen minutes. On February 19th the treated eye was much better, except that, five days after the treatment, some reaction followed. On this occasion four tubes, containing forty-four milligrammes, were applied for ten minutes to the left everted eyelid, and for fourteen minutes to the right. It was noticed that the granulations of the left eyelid seemed better. On May 8th the right eye was much better, while the left had again improved a little. The

progress towards recovery was uninterrupted after a few more treatments, and the patient got perfectly well, the lids being smooth and without any scar. This patient has remained perfectly well ever since, and the cure may now after four years be looked upon as permanent.

Three similar cases, one being of six years' standing and one an extremely severe case, have done exceedingly well with radium treatment, and all are now nearly cured.

In treating lesions of the eyelid with radium it is most important to protect the eyelashes by means of lead foil, otherwise they may be destroyed. It is also advisable in prolonged exposures generally to protect the normal part (on which you do not mean to act) by means of lead foil covered with thin rubber. Further, in the treatment of eye diseases, when the radium tube has to be held in position, it is most important to wrap the upper part of the tube in several folds of lead foil so as to protect the fingers of the person holding it. Otherwise severe burns may result if several cases are being treated consecutively.

With regard to diseases of the eye, I am carrying on researches at the Royal London Ophthalmic Hospital, Moorfields, assisted by Mr. Arnold Lawson. As to this it may suffice to say in the meantime that radium has yielded most astonishingly favourable results in many cases, some of which were reported in papers by myself and Mr. Arnold Lawson in *The Transactions of the Ophthalmological Society of the United Kingdom for* 1909. In cases of hypopyon ulcer of the cornea, corneal ulcers generally, episcleritis and cases of pterygium (even after several operations have failed to cure), it has yielded results superior to any other known method of treatment. Radium may therefore be looked upon as one of the most important therapeutic agents in superficial eye diseases.

In this connection it may be mentioned that if a tube of radium be held anywhere close to the eyes, in the dark, with the eyelids closed, a very peculiar sensation of diffused light is produced. This is in no way due to the visible rays, as the effect is quite the same if the tube of radium be wrapped in black paper. We have not found that the deeper diseases of the eye are benefited

by radium rays; but work is this direction as yet has been too limited to admit of our speaking with any certainty in the matter.

I will now pass from my own work with radium to that of others. With few exceptions all my cases have been treated with radium bromide enclosed in sealed glass tubes, and therefore the rays utilised were all the gamma rays, and most of the beta rays, but none of the alpha rays.

In Paris, where the Radium Institute could command large quantities of radium salts, Dr. Wickham and others were able to use it spread upon surfaces of metal of various sizes. They used for this purpose the sulphate of radium, more or less impure, because it was insoluble, unlike the bromide, which is very soluble and hygroscopic. Special varnish is necessary for spreading the radium, because having a powerfully destructive action upon organic substances, it would eventually cause any varnish to become brittle and friable, so that it might peel off and lead to loss of the radium. In a spread apparatus of this kind, if the coating of varnish be very thin, a few of the alpha rays can get through. It is usual to wrap round these apparatus a thin sheet of pure rubber, so as to protect it from contamination by the diseased surface to which it may be applied.

Dr. Dominici, of Paris, was the first to experiment with radium rays through metal screens of various thicknesses. As the beta rays are not uniform, but vary greatly in velocity, it follows that, by interposing screens of varying density and thickness, beta rays of different velocity can be allowed to impinge upon the diseased part. If lead or platinum screens of considerable thickness be interposed the beta rays of a very high velocity, and the gamma rays, are allowed to pass through. The various apparatus used by Messrs. Wickham and Degrais are described in a table in their large book entitled *Radiumtherapie*. The size of the surface of the apparatus is given, and the quantity of the radium salt spread upon it and its radio-activity. These apparatus may be used with thin rubber sheeting over them, or with screens of aluminium or lead interposed, and then the rubber covering.

The best manner in which to standardise each apparatus

is to measure the radio-activity, and then to divide this by the surface. For example: If four square centimetres of surface had radium spread upon it of a total activity of a million units, taking an equal quantity of uranium as one, then, of course, each square centimetre would contain 250,000 units.

The question of dosage naturally at once presents itself. Having a given quantity of radium, what screen should be used, and how long should it be applied to the part to be treated? This is a matter of trial and experience, and as yet no very precise rules can be laid down. Indeed, there seems to be a very wide range, within which good results can be obtained without damage to the normal tissue. I will now describe some cases from Dr. Wickham's book, and the apparatus and method employed by him.

Case 1.—An epitheliomatous ulcer on the nose. On December 6th he applied for one hour an apparatus whose radio-activity was 16,100 per square centimetre. No screen was used, and upon a portion of the ulcer, not covered by the first apparatus, another apparatus of 30,000 units activity was applied for twenty-five minutes. The same treatment was adopted on the 7th and the 10th. Already the appearance of the ulcer was improved. Ten applications of the first apparatus were made on consecutive days for an hour at a time. On January 10th the reaction was at its height, and a yellow crust had formed over its whole surface, which may be called the "Radium Crust." On pressing the crust a few drops of sero-purulent discharge exuded. On January 25th the crust spontaneously came away, leaving a surface of skin of normal appearance. Dr. Wickham remarks that he thinks the dosage in this case was too intense, as six or seven hours' application would have been sufficient.

The second case I will refer to is that of a baby with an angioma of the lower lip. Two apparatus, one of 17,700 units activity per square centimetre and the other 16,100 units, were placed one above and one below the small tumour. Interposed between them was a thin sheet of aluminium, .02 millimetres thick, and the whole was covered with thin india-rubber sheeting. Six applications of twenty minutes each were made on alternate days during a month; the whole of the treatment was complete in eight months, and fifteen months afterwards the lip presented a normal appearance, as can be seen in the slide.

The next slide is that of an epithelioma of the ear. Apparatus of 16,100 units was applied without any screen, six applications of one hour each being made for six days consecutively. Severe

reaction followed. Fifteen months afterwards a suspicious spot was observed, and this was treated for one hour with an apparatus of 26,300 units. A complete cure was the result.

Another case of epithelioma may be cited to show that good results may be obtained without any severe reactionary irritation. If cotton wool or wadding to a total thickness of one centimetre be interposed between the apparatus and the parts to be treated, long exposures can be given, and equally good results obtained.

The next case is one of extensive dark-coloured nævus of the face. An apparatus of 20,500 units activity was applied, with cotton wool wadding interposed, about one centimetre thick. Applications for one hour were made every alternate day for five days. The reaction depended upon the thickness of the interposed wadding. Finally a severe reaction was produced, and after various applications a very satisfactory result was obtained a year after the cessation of the treatment.

The next is a case of a large tumour of the parotid region in a man aged 54. In this case the apparatus was covered with lead one or two millimetres thick, so that only the more penetrative beta and gamma rays were utilised. The average radio-activity of the apparatus employed was 13,000 units. This apparatus was left on the whole night, and the next night was placed upon a fresh region. In this manner surface irritation was avoided, and deep action of the rays secured. In addition to this an apparatus was placed, without a screen, upon the ulcerated surface at the apex of the tumour. Besides this, on four occasions, a tube of thin gold, containing five milligrammes of radium, was buried in the centre of the tumour, so that the tumour was traversed by rays from within and without. The tube was left in for twenty-four hours, and the final result is seen on the adjacent slide. Although there was some deep thickening yet to be felt, the improvement is certainly very remarkable.

In the treatment of larger tumours, such as carcinoma, radium ought to be filtered through two or three centimetres of lead covered with rubber sheeting, and between this and the skin half a dozen or so layers of paper, or two folds of lint, should be interposed, so as to avoid superficial irritation of the skin. It is found that the metal screen alone gives off from its under surface under the action of the radium rays passing through it secondary rays, which are very easily absorbed; and if left directly in contact with the skin, these secondary rays would produce irritation and burning. Apparatus of this kind, according to the radio-activity, can be applied during the whole night, and

continued to a total of 60 to 120 or more hours, and then the effect watched for a month, and if no undue reaction follows, another application may be made. The result of the treatment of large tumours, whether internal or external, if carcinomatous, is unsatisfactory. If there is ulceration to begin with, the ulcers often heal up under radium treatment, and this is apt to raise hopes in the patient's mind of a possible cure, which is not likely to be realised. But it is claimed that radium relieves pain in these cases, and may to some extent delay growth.

When at the Radium Institute in Paris I saw drawings of an interesting case treated by Dr. Dominici. Into the centre of what was believed, after microscopical examination, to be a large round-cell sarcoma of the neck, he introduced a glass tube containing ten milligrammes of radium, which was enclosed in a silver tube half a millimetre thick, which again was surrounded by gauze. This he left *in situ* for forty-eight hours continuously, and this led to complete disappearance of the tumour. I saw drawings of the patient both before and after the treatment.

Also when in Paris I saw photographs of a patient of Dr. Claude's, whose hands and fingers were bent and stiff from chronic rheumatism. These hands were treated by pads of radio-active mud, with the result that the patient was enabled to straighten his fingers and there was considerable improvement in the general condition of the hands.

Altogether the work with radium which has been done in Paris by Dr. Wickham, Dr. Dominici, and others has greatly extended our knowledge of radium-therapy.

Professor Nagelschmidt, in an article in the *Klinisch-Therapeutische Wochenschrift*, Vienna, 1909, comes to the conclusion that radium is not effective in cases of visceral tumours or of the larger cutaneous tumours. Moreover, such cases in which it has been introduced into the cavities of the body, the uterus, rectum, or the nose, and is said to have produced a rapid improvement, must be looked upon with a certain amount of scepticism. He also refers in his article to treatment by means of radium emanations dissolved in water. He advises the drinking cure to be carried out by beginning with small doses :

the first day 2,000, second day 3,000, and the third day 5,000 emanation units. After that, from day to day, an increase of 5,000 up to 30,000 units, which remains the dose until the end of the cure, when there is a gradual decrease of 10,000 units per day down to nothing. The cure lasts from twenty-five to thirty days of continuous treatment, The patient must be warned that very often, in fact almost in every case, immediately after the first dosage, a so-called reaction will set in, which means a more or less considerable increase of pain and discomfort. It often happens that patients suffering from acute symptoms in any joint complain of violent pain in the other joints as well which may have been previously affected or have been cured. Considerable swelling and inflammation may supervene, so that patients may have to be kept in bed a day or two.

Another form of radium therapy consists in radium emanation baths. As the skin does not absorb gases, there is no doubt that whatever efficiency these baths have is due to inhalation of the emanations set free. Of course, radium emanation must be used within twenty-four hours of being taken from the apparatus which supplies it, as once it is removed it rapidly deteriorates, and is only half strength in about four days. Dr. Nagelschmidt suggests that drinking emanations of radium may give rise to a transient albuminuria. Dr. Lowenthal comes to the conclusion that cases of chronic rheumatism and of chronic neuritis give indications of being suitable for radium treatment. As an instance of the deleterious effects of an overdose of emanations, he mentions that one of the great Berlin High School teachers was occupied in investigating a substance containing radium. It was 240 grammes of a by-product, which had remained for years in a room, and had developed therein enormous masses of emanations. While dealing with this substance symptoms of increasing physical discomfort presented themselves, which became so aggravated that the savant was obliged to take to his bed. The doctor found a very high percentage of albumen in the urine, and he failed to diagnose the illness. All the symptoms disappeared eight days afterwards, and the patient completely recovered.

Dr. Nahmmacher[1] gives particulars of sixty patients treated by him. Among the successful cases were small recurrent nodules after cacinoma of the breast, two cases of lupus, one of cutaneous tuberculosis, warts, pigmented spots on the skin, scars and herpes, angioma, telangiectasis, and a case of nævus vascularis extending over the left half of the face. The treatment proved ineffectual in cases of frost-bitten hands, myoma, advanced inoperable carcinoma, and deep-seated tumours. Nevertheless, in many of these cases it relieved the pain. In a remarkable case of carcinoma of the cervix he inserted a tube with ten milligrammes for five weeks. This seemed to cure condition completely, but patient died from recurrence in one of her ovaries.

Some good work has been done with radium by Dr. Williams, of Boston, and Dr. Abbé, of New York. The latter has come to the conclusion that "radium ranks not with caustics, cautery or medication, but with specifics." This does not mean, he is careful to add, that radium is a specific for cancer in the popular sense, but for erratic cell growths constituting some types of tumour tissue in the earlier stage of invasion or of moderate development.

I trust that I have been able to give you some insight into the physical properties and medical uses of radium. It is unfortunate that at the outset undue hopes were raised that it would be a cure for cancer; and although at present we cannot hope that it will cure large malignant tumours, yet the results obtained in other directions are so remarkable that workers should persevere in their endeavour to ascertain what further results may be obtained. It is to be hoped that the Radium Institute which will be opened shortly in London will carry on investigations, with a large quantity of radium at its command, which may lead to great and unforeseen developments of its use in medicine.

The lecture was illustrated by an electroscope devised by the lecturer, by a radium clock which had been going for six years (kindly lent by Dr. Martindale), and a number of lantern slides, some to show the physical properties of radium, and some (coloured slides) taken from the pictures in Wickham and Degrais' *Radiumtherapie*, to show the condition, before and after treatment, of patients suffering from a variety of diseases.

[1] *München. Med. Wchnschr.*, 1908, lv. 140.

DIFFUSE DESTRUCTIVE CHANGES IN THE LIVER ASSOCIATED WITH JAUNDICE.

BY

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THERE is not such a lack of writings on this subject as to justify a mere record of cases seen, especially when several of the cases have already been published; and since the observation of these three cases, which I am about to describe for the first time (in addition to three already on record), only devolved in part upon myself, it is necessary to give a passable excuse for the construction of this paper. My reason is this, that within seven years I have had the very unusual experience of seeing six examples of a not common group of disorders, with the result that certain definite impressions regarding the essential features of these cases remain on my mind, impressions which seem worth setting down in black and white.

Case 1.—M.S., female, 25, married, three children, youngest five months; pregnancy, confinement and puerperium natural. The illness began on March 7th, 1906, with weakness and jaundice but no pain. The jaundice deepened, she vomited a few times and had a little pain in the back. On March 21st she came into the General Hospital under Dr. Parker. She was at that time deeply jaundiced, but with a clean tongue, a pulse of 100 and no fever. The edge of the liver was felt two inches below the costal border; it was smooth and not tender. On March 23rd the pulse quickened to 156; she became delirious and died two days later in coma, with a temperature of 107°.

At a *post-mortem* examination next day the tissues were deeply jaundiced, but not wasted or œdematous, and there was no ascites; the liver weighed 39 oz.; the upper part of the right lobe and the left lobe were shrunken. Over these parts the capsule was wrinkled, elsewhere smooth. The shrunken parts were firm and deep reddish-purple, and lacked the usual lobular pattern. This was, however, visible in the other parts of the liver, which were normal in consistence but deep yellow in colour. The larger biliary passages were normal. The mucous membrane

of the small bowel, of the duodenum particularly, was reddened, and under the visceral pericardium were a few petechiæ.

The sections which I cut from the liver showed the following points. The red, shrunken parts contained no liver cells, but the connective tissue framework was left, the lobular outlines being very distinctly defined by tracts of reactive change corresponding with the interlobular septa. The reaction here was of two kinds, connective-tissue proliferation and " bile-duct " formation. The " embryonic bile-ducts " were plentifully scattered throughout these zones, though nowhere else, the inflammatory cells, small fibroblasts, lymphocytes, and plasma cells, being similarly limited in their distribution. The yellow areas were made up of lobules normal in shape, but with every cell more or less necrotic, cloudy and swollen, and wanting in a definite nucleus. The same type of change was found throughout the renal epithelium.

Case 2.—M.P., female, admitted to the General Hospital October 1st, 1906, also under Dr. Parker. Five months before admission she was jaundiced for two or three days only. Three months after this the jaundice returned with abdominal pain, vomiting, short breath and swelling of the face. The jaundice continued and steadily increased; she went on vomiting, and was admitted with a tense ascites. The jaundice at that time was moderate, and on her chest were some purpuric spots. On October 9th the abdomen was so tight as to call for drainage; and by way of giving a chance for exploration to clear up the diagnosis, a small incision was made. Much bile-stained fluid ran out; and though the liver had a nodular feel (like new growth), there was no clear reason for further operation, so the wound was closed. Next day the pain in the belly was so bad that morphia gr.$\frac{1}{6}$ had to be given. That evening the breathing became slow, the pulse failed and she became comatose, dying early on the morning of October 11th.

The *post-mortem* inspection showed a general œdema with ascites, but no peritonitis, and hæmorrhages under the skin, and visceral pericardium. The liver, weighing 26½ oz., was flabby and its capsule wrinkled. In many places, especially the under part of the quadrate lobe and the left lobe, were bright yellow patches contrasting sharply with the pale reddish-brown of the rest of the liver. These patches when cut into showed a distinct lobular outline not seen in the rest of the liver. The bile passages were normal, the mucosa of the intestine reddened, and the fæces pale. Sections of the yellow areas showed normally-outlined lobules with every cell moribund and cloudy. The rest of the liver was cut up into compartments by bands of proliferative reaction, that is to say, of fibroblasts and "embryonic bile-ducts." These tracts certainly were interlobular trabeculæ; but as the enclosed spaces were distorted and smaller than natural lobules, some

shrinkage must have taken place. In the renal tubules there was cloudy swelling, also in the heart wall.

Case 3.—C.I., male, aged 4, came to my out-patient room on January 4th, 1909, with jaundice which had lasted about four days. He was first taken ill with diarrhœa, but no vomiting. The liver was just palpable, the motions were pale and the urine dark. I thought he had catarrhal jaundice, and did not take him in. On January 13th he was no better and the jaundice was deeper, so I admitted him under Dr. Symes, whose notes follow By this time the bowels were rather confined, there was occasional vomiting and slight upper abdominal pain. On January 17th he became drowsy, then passed into a screaming delirium. Twelve hours later, having been partly quieted by treatment, he lapsed into a typhoid-like stupor with convulsive twitchings, and died comatose on January 19th, 1909.

The *post-mortem* examination by Dr. Emrys-Roberts (to whom I am further indebted for the microscopical sections presently described) showed sterile fluid in the pericardium, petechiæ in omenta and mesentery, entero-colitis, and venous congestion of the liver with general jaundice. This organ weighed 18 oz. and displayed no shrunken reddish areas as in the foregoing cases. In the sections every lobule showed necrosis of the more central cells, and at the edge was a mild leucocytosis with "bile-duct" formation.

The other three cases were seen by me. As they have already been publicly recorded, my notes will consist of brief abstracts of the records which have already appeared. Cases 4 and 5 were reported by Sir John Broadbent,[1] Case 6 by Dr. Bertram Rogers in this *Journal.*

Case 4.—A girl of 17, admitted January 7th, 1902, to St. Mary's Hospital, under Dr. D. B. Lees (whose house-physician I was at the time). She had for a month suffered abdominal pain and progressive jaundice; the liver was just palpable and tender. After two or three days in hospital she became delirious, and died in coma on January 12th. The liver, weighing 40 oz., showed widespread cellular necrosis, and though no proliferation was noted, a few shrunken, depressed areas were seen with the naked eye.

Case 5.—A girl of 22, admitted to St. Mary's Hospital (while I was medical registrar there) September 29th, 1903, also under Dr. Lees. She had been ill nine months, jaundiced five months, and for three months had had increasing ascites with œdema of

[1] *Tr. Path. Soc. Lond.*, 1905, lvi, 145.
[2] *Bristol M.-Chir. J.*, 1906, xxiv, 40.

the ankles following. By October 3rd the belly was very tense, and it had to be opened. Much fluid escaped, but there was nothing except doubtful nodules to be felt in the liver, so the wound was closed. She became delirious, then comatose, and died on October 5th. The liver consisted of two distinct portions, one dull brick-red in colour and homogeneous, the other composed of irregular polygonal areas of bile-stained lobules. In these latter areas the cells were swollen, and fibrous and granular; the former consisted of a network of fibrous tissue with many embryonic ducts. The renal tubules also showed cloudy swelling.

Case 6.—A boy of 4, admitted to the Children's Hospital on June 2nd, 1905, under Dr. Rogers (while I was registrar to the Hospital). Three months before admission there was an illness, possibly associated with jaundice. He was admitted delirious and deeply jaundiced; the temperature rose to 108°, and he died comatose on June 4th. During life the liver was felt; *post-mortem* it weighed 17 oz., about normal at that age; it was dull, red and firm. Microscopically only a few outlines of liver cells remained; the lobular boundaries were marked by tracts of fibrosis and bile-duct formation.

Now in four of these six cases I was allowed to study the clinical features, and in all of them the pathological data. I believe they exhibit similarity in certain essentials which I will now try to define. To make this clearer a table of the cases is appended.

The course of the disease falls into two stages. The earlier and longer is one of progressive jaundice. In the two cases where this was longest (2 and 5) there was ascites also, and in all the other cases the liver was felt during this period, which varied from sixteen days to nine months. The final phase lasts two or three days. It begins rather abruptly with delirium, which passes into coma, often with hyperpyrexia, and death ensues.

The pathological changes in the liver also fall into two groups. First there are the areas of firm, red tissue exhibiting proliferation of the stroma and formation of "embryonic bile-ducts." These are partly to be looked upon as evidence of reaction to irritation, partly as an attempt at repair; in either case they commemorate the activity of some substance which brought them into being, while it destroyed the liver cells, a process which occupied some time. Then there are the yellow, still lobulated areas, in which the liver cells are all in a state of recent necrosis; these cells

would, if the patients had lived long enough, have disappeared, as in the other parts of the liver.

The long stage of progressive jaundice corresponds with the gradual, widespread destruction of liver cells, coupled with the formation of new connective tissue and "bile-ducts"; the terminal toxic stage with the final and complete destruction of such liver cells as had till then been spared. Flexner's[1] experiments throw light on the relation between these two phases. He found that in some rabbits the injection of ricin, abrin and dog's serum caused widespread necrosis of the liver cells with early death. In other animals, who lived longer, the interlobular tissues of the liver showed connective tissue proliferation with formation of "bile-ducts." Analogous lesions are found in man after the action of various poisons, and in several fatal cases of jaundice following appendicitis I have known of similar changes. It seems as if in the cases recorded here the patients had been repeatedly attacked by some poison or poisons unknown, by which their liver cells had been destroyed at a rate varying with the dose of poison and the patient's capacity for resistance. The better the resistance the more marked are the proliferative phenomena. Probably the final stage of intense toxæmia represents not only the complete destruction of cells which are of great metabolic importance, but also the total removal of an agency constantly at work preventing the passage of intestinal and other toxins from the portal to the systemic circulation. In some cases it may be that the same poison at once sweeps away the last surviving hepatic cells and passes on triumphantly into free circulation. In others, perhaps, one poison kills the cells and thus makes the way clear for another.

I have throughout avoided the term "acute yellow atrophy," because I consider it an imperfect description of a group of cases which are not always acute, and in which the liver is necrotic, rather than atrophic, and as red as it is yellow.

My thanks are accorded to my colleagues at the Bristol General Hospital for their kindness in allowing me to record cases 1, 2 and 3.

[1] *Brit. M. J.*, 1900, ii, 912.

Sex.	Age.	Symptoms of First Period.	Duration of First Period.	Symptoms of Second Period.	Duration of Second Period.	Morbid Changes in Liver.
F.	25	Jaundice. Weakness. Pain in back (slight). Vomiting (occasional)	16 days.	Delirium, then Coma. Jaundice deepened. Hyperpyrexia.	2—3 days.	Left lobe and upper part of right lobe red and shrunken=fibroblastic reaction of bile-ducts, but no hepatic cells. Rest yellow=necrotic lobules.
F.	19	Jaundice. Dyspnœa. Abdominal pain. Vomiting. Œdema of face. Ascites.	3—5 months.	Respiratory and Cardiac failure. Coma.	2—3 days.	Main mass red-brown=fibroblastic reaction of bile-ducts, with contraction of lobular outlines, and no hepatic cells. Yellow areas=necrotic lobules.
F.	17	Jaundice. Abdominal pain. Liver palpable.	1 month.	Delirium to Coma. Hyperpyrexia. Jaundice deepened.	2—3 days.	Some shrunken areas. Rest of liver yellow=necrotic lobules.
F.	22	Weakness. Jaundice. Œdema of ankles. Ascites.	5—9 months.	Delirium to Coma.	2—3 days.	Dull brick-red portions=fibroblastic reaction of bile-ducts, but no hepatic cells. Bile-stained areas of necrosed lobules.
M.	4	Jaundice. Weakness.	3 months ?	Delirium to Coma. Jaundice deepened. Hyperpyrexia.	2—3 days.	Liver dull red=fibroblastic reaction of bile-ducts, with a few necrotic liver cells. Yellow areas not noted.
M.	4	Diarrhœa, then constipation. Jaundice, Vomiting. Abdominal pain. Liver palpable.	17 days.	Jaundice deepened. Delirium to Coma.	2—3 days.	Liver yellow; all lobules showed central necrosis and peripheral repair. Red areas not present.

INFECTION OF THE URINARY TRACT WITH BACILLUS COLI.[1]

BY

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Physician to the Bristol Royal Infirmary.

INFECTION of the urinary tract with B. Coli gives rise from time to time to both puzzling and alarming symptoms. In some of the cases the constitutional symptoms are very marked, when there is little to draw special attention to the urinary organs.

The infection is more common in females than males, and the onset of the symptoms not infrequently accompanied by a rigor, which may be repeated. There may be pain, in some cases urethral, in others vesical, in others lumbar, or perhaps even more frequently subcostal. There may be tenderness over the kidneys, which may be felt to be enlarged.

The urine is as a rule acid (for B. Coli does not break up urea), containing a trace or more of albumen; more rarely blood is present, and in very exceptional cases a profuse hæmaturia. Pus may be present in considerable quantities with little constitutional disturbance, while on the other hand there may be very marked symptoms when the pus is represented by a few pus cells found after centrifugalisation.

Kidneys which have been seen in this condition have been found enlarged and congested, with prominent stellate veins, and at times with subcapsular hemorrhages. Sometimes numerous yellow nodules, which are virtually minute abscesses, have been observed in the cortex. Submucous hemorrhages are sometimes seen in the renal pelvis. A diffuse degeneration of the renal epithelium has been found in the more severe cases, and an exudation of leucocytes into wedge-shaped areas in the cortex, into the glomeruli, tubes and stroma. The route by

[1] Read at a Meeting of the Bristol Medico-Chirurgical Society, January 12th, 1910.

which the organism reaches the tract is at present undecided. There is no evidence that it occurs via the lymphatic system, and therefore it is either by the blood stream or by an ascending infection.

Points in favour of a blood infection are that similar renal changes may be produced experimentally in animals if their kidneys have been injured by trauma, injection of bismuth into the pelvis, ligation of the ureter, and so on, after the organisms have been injected into the blood stream. In some cases the bladder and ureteric openings have appeared perfectly healthy on cystoscopic examination, a fact which has been used by some as an argument in favour of a blood infection as against an ascending infection. It is, however, very doubtful if this argument is valid.

On the other hand, there are several considerations which are in favour of an ascending infection. The complaint is much more frequent in women than in men, a fact which is accounted for by the greater proximity of urethra to anus and the shortness of the urethra. Secondly, when the ureters are transplanted into the rectum, an ascending infection with B. Coli not infrequently takes place in the kidneys. Moreover, there is undoubtedly in many of these cases a preliminary inflammation of the bladder, and in many cases the renal disease is unilateral. Furthermore, removal of the diseased kidney has been followed by the immediate cessation of symptoms of constitutional poisoning.

With reference to treatment, little good seems to have followed measures directed against constipation and intestinal absorption, such as the administration of salol, intestinal antiseptics, calomel and castor oil. Urotropin and helmitol seem to be regarded by several writers as of little value. This has not been in accordance with my experience, for the signs and symptoms have been much ameliorated or cured after the administration of urotropin. Those who find this class of drug of no value recommend sod. citrate, with the idea of rendering the urine alkaline, and thus inhibiting the growth of the organism.

An anticolon serum has been used, apparently with some

success. It was employed in one of the cases to be presently described, but in conjunction with other measures, so that one cannot say how much good was derived from it.

Lastly, there is vaccine treatment, which is said by Dudgeon to be followed by temporary improvement, but very apt to be followed by relapses.

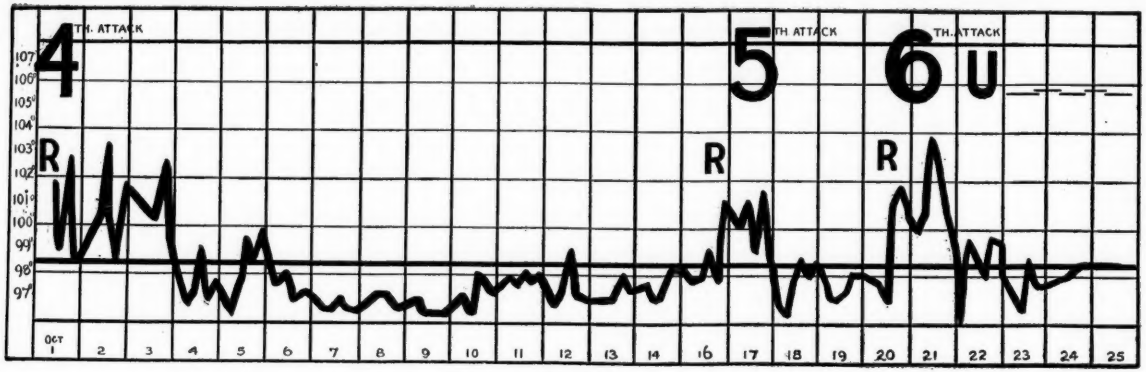
The following seven cases which I have seen in the last two years give illustrations of the complaint.

The first case was a lady, aged 47 (Mrs. H. M.), seen in consultation for rigors and intermittent fever, on October 21st, 1907. There was nothing in her previous history up to three years before her illness which would throw any light on the causation of the attacks. At that time she suffered from severe menorrhagia, due to a fibroid, for which she underwent panhysterectomy. Following this she had some slight phlebitis in left leg. No chance of malaria. She had always been bilious, but not jaundiced.

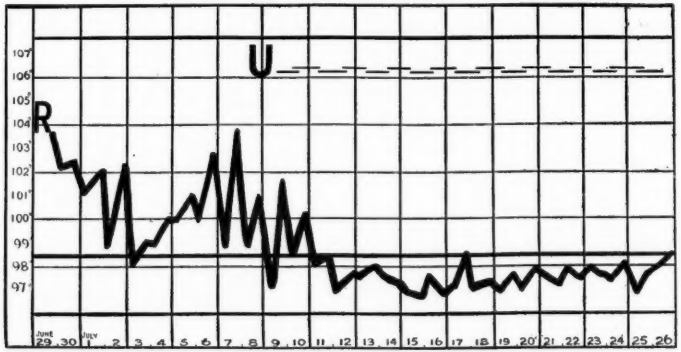
Her illness began in July, 1907, when she went to the Oxford pageant and felt shivery. The following day she went to Henley, and stayed a week. There she had some retching and felt generally slack. She regained her health till the middle of August, when, preceding the sale of her home, she had to sort a good many papers in a damp strong-room. She then had an attack of nausea, some vomiting and a rigor, pains in her legs and in her left iliac fossa. She was very ill for three days. The attack lasted a week, and was accompanied by frequent micturition, nothing abnormal, however, being found in the urine.

On September 20th she had a third attack, ushered in with a rigor, nausea and vomiting, marked elevation of temperature, and weak cardiac action. She thought she was going to die. This attack lasted two days. She was kept in bed for a week, and then got up for five days, when early in October she had her fourth attack, similar in character, and lasting three days. She was kept in bed two weeks, during the last ten days of which temperature and pulse were normal. On October 16th she had her fifth attack, again with a rigor and temperature of 102. On October 17th she was examined by Dr. Tate, who had removed her uterus, but who found nothing abnormal in the pelvis.

On October 21st nothing abnormal could be detected in lungs, heart, liver or spleen. There was some tenderness and rigidity over the right kidney, which was said never to have been present before. The blood has been recently examined at Easte's Laboratory, and from there a report had been sent that there was no indication of pus in the body. Examination of further stained films was negative. The urine contained a trace of

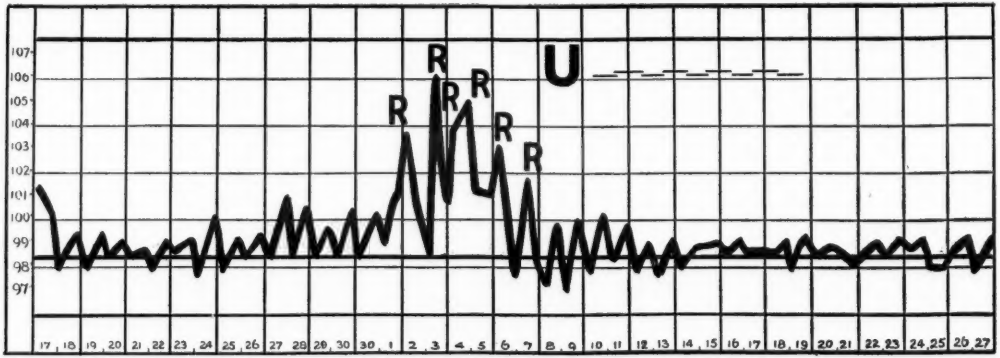


Case I.



R = Rigor.
U = Urotropin.
H = Helmitol.
S = Sodium Citrate.

The strokes —— after the letters indicate the period of administration of the drugs.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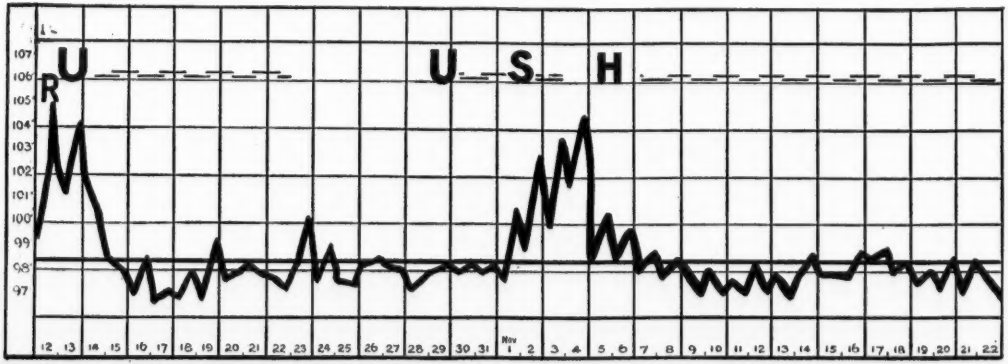
17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 30, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27

Case V.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albumen, some pus, no casts, bladder epithelium, no T. B. A report from St. Bartholomew's Hospital, where another specimen of urine had been sent, affirmed the presence of B. Coli. The patient was put on urotropin (gr. x t.d.s.), and made an uninterrupted recovery without further relapses.

The next case (M. B.), a medical man, seen in consultation on March 24th, 1909, with Mr. Carwardine, Dr. Powell and Prof. Walker Hall, had been ill some weeks with indefinite pains about his body. Ten days previously his temperature was 101, and on March 18th he complained of frequent micturition, much pain in the bladder after the act, and a little hæmaturia. The urine was acid, contained a good deal of pus, no crystals, no casts, not more albumen than would be accounted for by the pus. An almost pure growth of B. Coli was obtained from the urine. On March 23rd he had a severe rigor, and another on March 24th. For thirty-six hours he had been troubled with excessive retching and vomiting.

On examination, the tongue was moist and clean. Nothing abnormal was found in the heart, lungs or liver. In this case the spleen could be just felt. He had an area of tenderness over the left kidney and in left loin. His retching was so severe that rectal feeding was necessary. One phial of anti-B. Coli serum was given per rectum and urotropin (gr. x t. d.s.). By March 26th he had improved ; the temperature was down. His nausea had been very much better for twenty-four hours, and he could now retain albumen water by the mouth. Prof. Walker Hall reported fewer B. Coli in the urine and the albumen less. No casts, oxalates or urates. Later, the albumen entirely cleared up. He is now quite well, and has had no relapse.

The third case was a nurse (Miss H.), seen in consultation, suffering from pain over the left renal region. Her father and mother had both died from phthisis. She had had no previous illnesses of importance. She said that in August, 1908, she had a chill, and had not been well since, being subject to pain in the epigastrium, which was worse after food ; had some slight vomiting, but never hæmatemesis or melæna. When first seen by her doctor three weeks before I saw her her symptoms were regarded as dyspeptic, and she was given bismuth and HCN, etc., without relief. For some little time she had suffered from puffiness under the eyes in the morning. Her temperature had never been found abnormal, and she had not had any rigors. On further questioning, her pain appeared to be of two varieties—(1) an acute epigastric pain and (2) a dull, aching pain in the left loin, with occasional exacerbations, sufficient to make her stop anything she might be doing, inducing sweating and nausea. The urine had from time to time been high coloured, but it was doubtful if it had contained blood. She had been losing flesh,

and had suffered from very marked cold night sweats. When examined nothing abnormal was found in lungs, heart, fundi, liver, spleen or spine. There was very marked tenderness over the left kidney with rigidity. A tentative diagnosis of possible tuberculosis of the kidney was made, and she was admitted into the Bristol Royal Infirmary for further observation. There it was seen that she had a temperature of an oscillating variety; marked tenderness over the left kidney persisted. The urine was passed in about normal amounts, was acid, contained a trace of albumen, no blood, no casts, and on centrifugalisation a few pus cells were found. No T. B. were discovered. A guinea-pig was inoculated for evidence of T. B., but died a few days later, a marked growth of B. Coli occurring at the seat of injection. A few days later B. Coli were found in the urine of the patient. She was treated with urotropin; her temperature became normal, her pain disappeared, and she was sent out cured. Since that time she has had a few slight returns of her trouble, but not severe enough to interfere in any way with her work.

The fourth case was a woman (M. D.), aged 23, admitted to the Bristol Royal Infirmary on the fourth day of her illness, which began with a sharp pain in the right side, like a knife, whenever she breathed. The same afternoon she had an attack of shivering; no vomiting, and very little cough. On admission she did not look ill, and had no distress. T. 103.4, P. 112, R. 20. Heart normal. Slight diminution of entry of air at the right base. The spleen descended a quarter of an inch below the costal margin. There was no tenderness over the kidneys, though the right was movable and easily palpable. Widal was negative. The urine was acid, 1020, contained a thick cloud of albumen, no blood, no casts, but some pus. A few days later B. Coli were grown from the urine, and the patient was put on urotropin. The temperature immediately began to fall, became normal three days later, and did not rise again. The pus gradually diminished in amount, so that there was no deposit when she went out a month later; the albumen also steadily diminished, though a faint trace remained to the end. This patient was also treated by bladder washing.

The fifth case was a man (T. G.), aged 64, who came to my out-patient department complaining of dyspeptic symptoms. There was a slightly tender spot in the epigastrium, and his temperature being 101, he was admitted. For two years he had suffered from attacks similar to the present one. For five weeks he had suffered from pain in the stomach day and night. He had vomited several times, sometimes after food and sometimes when out of doors between meals. The vomiting had relieved pain. The bowels had been very costive; had never passed any blood; had lost 1½ stones during the last two years, and had

never drunk to excess. Nothing of importance was found in lungs or heart. The edge of the liver could be felt just below the ribs, and there was some resistance in the upper part of the abdomen. After a test meal there was no free HCl in the stomach contents, lactic acid being present in small quantity. No mass was felt even after distending the stomach. A tentative diagnosis of gastric carcinoma was made. The urine was acid and contained no albumen or sugar. A fortnight later the patient had a series of rigors, one or two a day for five days, with a very markedly swinging temperature, which reached on one occasion 106. No evidence of any focus of pus could be found. There were 30,000 white cells, of which

91 per cent. were polymorphonuclears.
1 per cent. were small lymphocytes.
6.5 per cent. were large mononuclears.
1.5 per cent. were transitionals.

A blood culture was negative. The patient was not extremely ill between the rigors.

The type of the temperature, the recurrence of the rigors, without any cause which we could find, suggested that here again the causal factor might be a B. Coli infection of urine. Professor Walker Hall's report on this point stated that there are " gas-producing organisms belonging to the coli group, and in addition cocci, and non-fermenting rods."

The patient was put on urotropin, after which the temperature fell and he had no more rigors. In this case there was only a slight trace of albumen in the urine, and that during the height of the fever, and no pus cells to be found until a few days later, when blood also appeared. The tenderness in the epigastrium continued, and later a nodular tumour could be felt in the liver. The patient lost weight, eventually became jaundiced, and died two and a half months later, the cause of death being carcinoma of the pancreas, with secondary growths in liver and omentum. The following is the *post-mortem* report :—

" The kidney shows advanced parenchymatous changes. The capsule is slightly thickened, and there are a few minute patches of interstitial proliferation. The glomeruli are congested and swollen, and there is a slight glomerular exudate of the serous type. The proximal and distal convoluted tubules contain some bile-stained casts, and the lining cells are in a condition of late catarrhal change. The medullary tubules do not show much change, and the lining of the pelvis, although composed of more fibrous tissue than usual, does not show any defined reaction to bacterial irritation."

The sixth case is one which I saw in consultation on July 6th, 1909, a man (Mr. H.) aged 42. He had previously enjoyed good health, with the exception of a doubtful attack of rheumatism

in childhood. He had been doing his work as usual till June 24th, when he felt rather seedy. For the next two days he had some diarrhœa, but this was probably due to a purgative. During this time his temperature was raised, and the notes say that from this time onward till July 6th his temperature was swinging very markedly. On June 28th he had a rigor, and other rigors followed on June 29th and July 4th, on which latter date the temperature reached 105.5. There was no enlargement of the spleen, no spots. Widal's reaction was negative. The urine contained a very faint haze of albumen; no vomiting, no headache, but vague, diffuse pains over body.

When I saw him he was perspiring profusely; he was restless and anxious. No definite abnormal physical signs were found in the lungs; the heart was slightly enlarged to the left, and at the apex was a systolic murmur which was slightly conducted outwards. Nothing wrong was found with throat, ears, sinuses, joints, bones, glands, spleen, liver, fundi or nervous system. There was diffuse tenderness over the right renal region, and the urine contained a trace of albumen. The case appeared to be one of septicæmia with involvement of the mitral valve—malignant endocarditis. The urine was sent to the University for bacteriological investigation, and a report came back saying that a pure growth of an organism had been separated which gave the reactions of B. Coli.

On July 9th he was put on urotropin (gr. x 6tis. horis), which he continued for five days. Daily rigors continued. On July 14th he had a severe syncopal attack, and became slightly jaundiced with some bile in the urine. I am told that no fresh abnormal physical signs appeared. He died on the 17th, and unfortunately the chance of obtaining an autopsy was out of the question.

The last case is one of a woman, aged 24, who came up to my out-patient department and was admitted under the care of Dr. Prowse, who has very kindly permitted me to make use of his notes. She came up for cloudiness in her urine and pain in her loins. In 1904 she was in the Bristol Royal Infirmary for four days for constipation. Two years ago she had extreme pain on passing her urine, which was relieved by treatment. She has had four or five attacks similar to this with pain in her loins. About three weeks before admission she noticed that her urine was cloudy, and had pain on micturition. She then suffered with a good deal of vomiting, and for two or three days could keep no food down. For four days she had felt a marked feeling of fatigue, and three days before admission she had a rigor, followed by another one the day before she was admitted. On admission her tongue was clean, but she looked rather ill. At 7 p.m. she had a rigor, the temperature going up to 105° F.

Nothing abnormal was found in heart or lungs. The abdomen was rather full, and she would not relax it. The hepatic dulness was from the fifth rib to one inch above the costal margin. The spleen was not felt. She was tender in both loins on bimanual examination; she also had some tenderness in the right iliac fossa on deep pressure. The urine was of low sp. gr., 1004, acid, with a cloud of albumen and a good deal of pus. White cells during rigor, 24,000, of which

89 per cent. were polymorphonuclears.
5 per cent. were lymphocytes.
3.5 per cent. were large lymphocytes.
2.5 per cent. were transitionals.

The following day she was put on urotropin (gr. x t.d.s.). The temperature in the evening was up to 104.2, but she had no rigor. The next day the tenderness in the flanks was much better, and the temperature rapidly falling. The pathological report received the following day described the chief organism found in the urine as "an atypical colon bacillus." Improvement continued, the albumen and pus became very much less in quantity. Four days later there was no albumen in the urine and only a few pus corpuscles seen under the microscope. A fortnight after admission atypical B.C.C. were still found in the urine. On October 29th the patient was again put on urotropin (gr. x t.d.s.). In spite of this the temperature went up and pain and tenderness again appeared in the right loin. With this recurrence there were no rigors. On November 5th she was put on helmitol (gr. v t.d.s.). The temperature became normal, and the pus diminished to a slight trace. On November 10th vaccine treatment was begun and continued till December 14th, the first injection being of 12 millions and the last 250 millions. There was still a very slight trace of albumen and pus in the urine when she was discharged.

It is well known that a bacilluria due to B. Coli may occur without giving rise to such alarming symptoms as those just described, and indeed that it is frequently present without giving rise to any symptoms. It occurs not infrequently after the specific fevers, especially typhoid, scarlet fever, measles and diphtheria, in children. In children also it appears to be one of the causes of nocturnal incontinence, the urine in some of these cases being turbid from the number of the organisms present. It is interesting to observe that these cases are often those associated with thread-worms.

I have ventured to bring these cases forward, as the cause of the symptoms may be overlooked in the absence of urinary symptoms, unless the possible presence of B. Coli bacilluria be

borne in mind. Prominent among the symptoms which should lead to such a search in any given case of unexplained fever are—

(1) Multiple rigors.
(2) Markedly oscillatory temperature.
(3) Retching and vomiting.
(4) Relapses.
(5) Splenic enlargement.
(6) Abdominal tenderness and subcostal pain.
(7) Leucocytosis.

HYPNOTISM.[1]

BY

HUGH P. COSTOBADIE, M.R.C.S., L.R.C.P.

ON October 18th, 1909, Dr. George H. Savage delivered the Harveian Oration on Experimental Psychology and Hypnotism. In 1846—sixty-three years ago—Dr. John Elliotson also delivered the Harveian Oration of that year on the same subject, under the name of Mesmerism. The earlier lecturer was totally disregarded.

The striking point about these two lectures, so widely separated by time, is that neither speaker asks more of his hearers than that they should examine thoroughly and weigh carefully the usefulness or otherwise of hypnotism in medicine; and appropriately enough, each endeavours to bring his point home to his hearers by the same means, that is, by using Harvey's own words.

Bramwell tells us in his short history of John Elliotson that these words occurred in his oration: "We should always have before our eyes that memorable passage in Harvey's works, 'True philosophers, compelled by the love of truth and wisdom, never fancy themselves so wise and full of sense as not to yield

[1] Read at a meeting of the Bath and Bristol Branch of the British Medical Association, November 25th, 1909.

to truth from any source and at all times; nor are they so narrow-minded as to believe that any art or science has been handed down in such a state of perfection to us by our predecessors that nothing remains for future history.'" And Dr. Savage concludes with Harvey's words, 'I therefore whisper in your ear, friendly hearer, and recommend you to weigh carefully in the balance the exact expression of all that I have delivered in this my exercise."

John Elliotson, whatever may have been his personal shortcomings, was wrecked professionally by his belief in hypnotism; but such narrow-minded persecution as he suffered is to-day impossible amongst men who are grown used to meet great changes calmly and critically, and who, while still strongly conservative, are to-day possessed of vastly greater individuality

Now, what does hypnotism do to make itself useful in the study and treatment of disease? The answer to the question is, that it increases suggestibility.

Everyone is to a greater or less extent susceptible to suggestion, and suggestion is, in Moll's words, "a method of producing an effect by calling imagination into play." For example: You know, as do most people, that if a stick of sealing-wax be rubbed with a dry silk handkerchief it will pick up a small fragment of paper. Three sticks of sealing-wax are placed on a table before several persons, and they are told that an electric shock can be obtained from any one of them by touching it after it has been well rubbed. One of the onlookers is sent out of the room after it has been explained to him that during his absence one of the sticks will be well rubbed; that when he returns he is to touch them lightly with his finger, and by means of the shock given off by one of them he will be able to distinguish with certainty the stick that has been so treated. After he is gone, the remaining persons are told to agree with him in whichever stick he selects, but that none of the pieces will be rubbed, as in fact that would be useless. The subject of the experiment on his return will always indicate a stick as being one that gives a slight tingling to his finger; and if the experiment be repeated, after it has been impressed upon him that to give a greater shock

a more vigorous rubbing will this time be given to one of the sticks during his absence, he will make his next selection with increased assurance, and by a good subject the extent and character of the sensation received is sometimes voluntarily described with surprising detail.

So greatly, however, is suggestibility increased by hypnotism, that it is only necessary to tell a patient in a deep hypnotic sleep that he has just received an electric shock for his muscles to tighten and his face to twitch in a way which shows without doubt that he believes he feels it, and moreover he will tell you that he does. Now, every sick person is subjected, knowingly or unknowingly by his doctor, to treatment by suggestion.

You are all aware of the fact that the thoroughness or the carelessness of the examination, the hopefulness or hopelessness and so on of the physician, influences the patient for good or evil, and oftentimes does more than the medicine prescribed in effecting a cure ; so that you will agree that it is this increase of suggestibility produced by the hypnosis that makes it such a very definitely useful though limited adjunct to therapeutics.

What the limits may be I think no one knows, for they largely depend upon an individual operator and a particular patient: I mean that one operator might cure a particular patient of, say, dysmenorrhœa, where another operator with the same patient would fail, or the same operator with another patient would be also unsuccessful.

Different authors have given lists of conditions in which they have found hypnotism useful, and quote many cases in proof. On analysis, it is seen that those in which the best results have been obtained are those which are found so difficult to deal with by the more ordinary methods which we have at hand ; I mean that large class called by us functional diseases—tics, tremors, and nervous spasms and cramps, and some neuralgic pains and headaches, some hysterical paralyses, convulsions and aphonia, many phobias and so on, while sleeplessness and sleep-walking can be cured. I have had cases of hysterical twitchings and tremors, of nocturnal enuresis, of neuralgias, of headaches, and of sleeplessness which I have been able to cure, and others of

chronic constipation, of dyspeptic discomfort, and a case of the morning vomiting of pregnancy. I have been able to benefit for a few months a case of melancholia ; and I once tried its use in labour, but I was unable to control the pain ; and in a case of epilepsy it had no good result in my hands.

Sir Francis Cruise once told me of a most useful case which he had cured.

The patient was a dentist, who whenever he took up an instrument to operate, but at no other time, was troubled with a coarse tremor of the hand and arm, which rendered his work most difficult and after a time impossible. Sir Francis Cruise saw him, and told him that he could be cured, and by means of suggestion during hypnosis the tremor was made to disappear after a few sittings. Such a complaint to a dentist would totally incapacitate him from work, and I know of no other method of treatment which would have cured him either so quickly, or without taking him away from his duties, or by means of which so successful a termination could have been so definitely predicted.

I will give shortly one more interesting illustration of its usefulness from among my own cases. On November 4th of last year W. G., a miner, twenty-three years of age, and who comes of a good, hard-working family, came to see me because he was afraid to return to his work down the mine. Eleven weeks previously, when " getting coal," he had crushed his hand, and although this had healed in three weeks, he had not since been able to persuade himself to return to his labour, though he often got up in the morning at the proper hour and put on his working clothes, only to take them off again, as his fear of going underground overcame his determination to work. He had already consulted about his present trouble four separate medical men, who had all, he told me, carefully examined his heart, nervous system, urine, etc., and had ordered him treatment and change of air, but without result.

He was depressed and anxious about himself. His pupils were unstable and his pulse-rate a little increased, but I could discover nothing further amiss, and he had been gaining in

weight. I assured him, as his other doctors had done, that he was physically fit and capable of doing the hardest of work. I then hypnotised him, and repeated my assurance, and told him that his fears were ill-founded. I suggested that he should return to his work on the morning of the second day, that is to say November 6th. The next day, November 5th, I repeated the suggestion during hypnosis, and the following morning he returned to work, reporting himself six days later as being perfectly well, and he has remained at work ever since.

Alcoholism and drug habits can be cured by this means, and it is most useful in acute conditions in relieving disagreeable symptoms and giving sleep, and I have myself used it to relieve the myalgia of tonsillitis and the restlessness and headache of influenza. I have once or twice used hypnosis when my partner, Dr. Pollard, has performed some slight operation, such as a dental extraction, and the patient has felt no pain.

But lists of diseases in which it has been used with more or less success can be found in any one of the many books on hypnotism, so I will not trouble you further with this part of the subject, but will now try to show how it may be used in experimental psychology, with a possible chance of putting us on the right road to discovering something of the mystery of the working of the brain. Before doing so, however, I want to say a word about the dangers of hypnotism.

Of undue influence and criminal actions almost all writers show that, whilst it is under certain exceptional circumstances possible, the cases are few, and that chloroform put to the same use would be a safer and surer means to employ, as would certainly be known to the criminal hypnotist, who would realise the possibilities of abruptly arousing his victim and the uncertainty of the completeness of the loss of memory, or the period over which it would extend. The popular idea is, as is so often the case, exaggerated and distorted.

Of the complications following hypnosis, I have had headache following the first sitting on more than one occasion, but it has never persisted after I have made suitable suggestions on re-hypnotising the patient. Again, I have once or twice had

patients complain of coldness of the extremities; but this has also been easy to deal with. A more serious condition was a tremor of the right arm, which came on while a patient was in an hypnotic sleep, and which, although I arrested it almost immediately, recurred as soon as she was awakened, and it was only after a prolonged sleep that I was finally able to rid her of it. This I traced to the fact that she was lying on a couch with a soft cushion beneath her head and shoulders, and under which a large, hard book had been placed, of which I was unaware. This was under the patient's right shoulder, and although I asked her directly she was asleep if she was comfortable, it was not until after the tremor had commenced, and I was questioning her as to its cause, that she told me that something hard beneath the cushion was giving her considerable discomfort.

I think that it was this continuous pressure that during her sleep centred her attention on her arm, and produced the tremor by auto-suggestion.

By other operators I have twice been told that they have had patients who were troubled by headache produced by hypnosis, and another doctor told me of an attack of hysteria in a patient whom he had hypnotised and left for a moment, and who was in his absence abruptly awakened by some of the other patients in the ward pinching and smacking her.

In the literature on the subject there have been reported few, if any, cases of serious trouble following the use of hypnotism by skilled operators, although in unskilled hands serious and permanent damage may be done.

One of the most marvellous phenomena of hypnotism is post-hypnotic suggestion.

If a patient when hypnotised be told that in ten minutes after waking he will take out his handkerchief and tie a knot in it he will do so, and in the same way he will on waking see a picture on a blank sheet of paper if this has been suggested while in hypnosis. It is to the nature of this picture that I wish now to draw your attention. The following experiment, which has been published under the initials H. E., whom I know personally, and whose original experiments I have repeated and tested, will

well serve my purpose. Such a picture belonging to the class I have named was seen by X., who, before it faded, described minutely a fine, well-furnished room, containing amongst other things a clock unusually large. Now, on being asked where he had seen such a room, he was certain that he had never seen one like it, " for if I had I should have remembered it by the curious clock."

On being hypnotised and asked the same question, he replied at once, " At so-and-so ; the clock cost hundreds of pounds."

On being awakened, he was told that he had seen such a room, but he was still unable to recall it until told where, when he readily agreed, and added that it was five years ago.

Now, this is evidently an example of what is called sub-conscious memory ; but the still more interesting point is what made X., who believed he had never thought of the room since the day he saw it, recall it at the particular moment when he was looking at that blank sheet of paper ?

He himself could give no reason at all, but on being re-hypnotised he said, " The gas thing in the middle of the room was all made of glass—it was beautiful. The little knobs on the chandeliers in the church to-day " (he had been to look over an old church earlier in the day, and had examined, standing on a chair, the cut-glass knobs on the church lamps) " were made like it, and I suppose that made me think of the thing again." On being wakened, he did not remember thinking of the room when looking at the candles in the church.

Now, probably the greatest stimulus given, say, within that day to his sub-conscious memory was by means of those cut-glass knobs, and the result had not yet faded when he looked at the paper, and so the production of this particular picture came about.

You will see first, then, that the subject had apparently forgotten the room, and next that he could not, even after he had recalled it, remember the cause of its coming back to his memory, but that such a cause did exist the experiment proves. This was the last arch in the bridge of memory from the time of his seeing the room to the time of the experiment, and we may take

it that these arches are separated from each other by gradually-increasing periods of time, for he would undoubtedly at first in his waking state have remembered from day to day, then from week to week, and so on.

The memory from any given point is kept alive by these arches, at some time changed into the region of sub-consciousness.

Of course, conscious memory may recur at any time; but from the case quoted, I would suggest that this had only taken place at some period long previously. I think we can also deduce this fact, that sub-conscious memory, if it be not actually indestructible, is " good " over a longer period than conscious memory, and only requires an appropriate suggestion to lift it into the region of consciousness.

The sub-conscious memory may, therefore, be an important factor in disease; for may not the repeated stimulus of sub-conscious memory, acting, for example, on imagination, be the obscure origin of some of those still more obscure conditions which occur in so many functional and mental diseases, if not the cause of some of those diseases themselves ?

But this is a bare indication of a line of experiment that is well worth further investigation.

The subject I have dealt with is of vast extent, and my paper of necessity contracted, but I trust you may find in it some matter worthy of debate.

ORIENTAL MEDICINE—STRAY JOTTINGS.

BY

V. B. GREEN-ARMYTAGE, I.M.S.

THE customs and people of the East are slow to move, but perhaps most of all is this observable in the practice of Oriental medicine. I have therefore attempted to put on paper a few examples of Oriental lore, with a view to interesting some of your subscribers. But should any reader be too critical, I would ask

him to remember that in the East the system of Purdah, together with the machinations of superstition, make original investigation very difficult, however good one's linguistic powers may be.

In Northern India the native has a curious method of prophesying the sex of the unborn child: for at the seventh month many relations gather at the house of the future mother, and then a few drops of milk are squeezed out of her breasts on to a piece of yellow cloth; if, when it dries, it is white, a girl will be born; if yellow it will be a boy.

Child-birth itself is a great occasion, fraught with many superstitions; so perhaps an account of such an incident will not be out of place.

Immediately after the birth of the child the mother is given a small piece of metal copper to swallow, called "dumree," which is supposed to expel the placenta. After this she is given a dose of assafœtida, to prevent her catching cold and to relieve the after-pains; this drug being also affirmed to be a stimulant. The midwife, like the gipsy of the West, is wise in her generation, for she demands at this stage something shining, such as a silver or gold coin, just to touch the umbilical cord with, "for luck;" and then she proceeds to deal with it in the usual way—appropriating the coin for herself. In the East—unlike the West—the placenta is not a thing despised, but is buried with due state, along with a sacred leaf and small coin, to propitiate the gods; and the knife that cut the cord is kept sacredly for forty days, alongside the mother and child wherever they go or move, for it has a certain power against all ghosts and evil spirits.

During the puerperium the mother is looked after with great care, and for forty days she is only allowed to drink boiled water, in which a red-hot horse-shoe has been allowed to cool. The wisdom of this course will be easily seen. However, she and her child have ever to be on guard against evil influences. No dog or cat must come near her, and more especially the latter, as it is regarded as a witch. Moreover, any stranger coming to the house has to throw some myrrh on the fire to ward off all evil spirits from the mother and child. As soon as the child has been washed it is brought and presented to its relations, when, if it

belong to a Mussulman family, the "Azan," or call to prayer, is pronounced in his left ear, and the "Tukbeer," or creed, into his right. Baptism soon follows, and is usually rather a gamble, for one of the family will open the Koran at any page, and then the first letter of the first word on the page is chosen to construct the child's name on. Like the Jews, every Mussulman is circumcised. The occasion is usually one of much hilarity for the family, but of suffering for the patient, as the Koran law decrees that it must be done between the ages of seven and fourteen. The boy is placed on an earthen drum and is given bhang (Cannabis Indica) to drink. He is then engaged in conversation, whilst the homely barber deftly wields the razor. After the operation a peacock's feather and a copper ring are tied round his neck, to ward off evil spirits, and the parts are dressed with powdered benzoin.

For the commoner medical diseases the uneducated Indian has implicit confidence in the native "hakim," who corresponds very much to the herbalist of England or the medicine man of Zululand. It is difficult to describe his methods, for his eye and conversation elicit all the information he needs for treatment. Once I asked a hakim what his diagnosis of a case was, and how he was going to set about to find out, the patient being delirious. His answer was: "Sir, God knows his disease; we only know whether it is a hot or a cold disease, and according to which I find or think it, I shall give him of my drugs." This will give you an idea of their *modus operandi*. But I may say that often their medicine has excellent results, and they, moreover, know their limitations, for they send their surgical and unsuccessful cases to the civil surgeon, partly, no doubt, because they can obtain no more money.

One rather curious mode of treatment is to apply to a septic ulcer an oil expressed from the head of a cobra; and another, for impotence, a condition ever in the East calling for treatment, is to take the penis of a crocodile (these brutes abound in the rivers), dry it in the sun, and then powder it finely. The powder thus obtained is a very valuable and precious remedy, and fetches large sums of money for a dose of a few grains.

Another is to apply to every sore, or ulcer, or boil, a compress of sugar and soap—which readily cures. This, of course, is a remedy I have seen very commonly used in the West Indies, and is interesting in view of Sir A. E. Wright's work on capillary transudation.

But perhaps the most extraordinary and interesting thing of all is the faith in the power of charms to heal. I have spoken in a previous article, of a so-called snake bite cure, but this is as nothing, compared to an amulet which was sold to me as a certain cure for fearsome hemorrhoids or confluent small-pox. It consisted of a metal disc, on which were scratched the following figures and lines :—

2	9	4
7	5	3
6	1	8

the figures of which, added up vertically, diagonally or horizontally, make the same total. I was assured that all that was required was to wash the disc two or three times a day in water, then drink the water, and mutter, "La-il-la-hah, il-lul-ha-ho, Mohamed, oor Rasul-Ullahah" ("There is no other God except the one true God, and Mohamed is the prophet of God"), and that the utterer would soon be well! There are a great variety of these discs—all varying in potency, and covering the whole gamut of diseases.

Nor should it be thought that prognosis will offer any difficulty to these astute fellows, for they have a very definite system of application, which I will explain. First, they inquire on what day the man went sick. If he cannot say, they take the number of letters in his, or his mother's, name and divide it by seven ; if

one remain he must have been taken ill on a Saturday; if two, on a Sunday, and so on. Then the procedure is as follows. If on *Saturday*, as it is Saturn's day, the disease must be due to heat of the blood, or a malignant eye, and must last seven days; and the only treatment is for his friends to give propitiary alms to fakirs, and to wear certain amulets and drink the water thereof. If on *Sunday*, as it is the day of the sun god, it is due to the evil eye of some green-complexioned woman with whom he has taken food; the symptoms are those of anæmia and extreme debility, and are treated by iron water and "cold" sponges. If on *Monday*, the day of the moon god, it is caused by catching cold after bathing or exertion; the symptoms are those of acute hepatitis, and are treated by "hot" medicine and local applications. *Tuesday* is the day of Mars, and illness is due to being attacked by demons and fairies; the symptoms are those of peritonism, and usually lasts seven days, when death or life will win the victory! *Wednesday* is the day of Mercury, and disease is due to having made a vow to the dead and not fulfilled it; the symptoms are those of acute rheumatism, which lasts but nine days, and from which, if propitious, recovery will result. *Thursday* is the day of Jupiter, and illness is due to being beset by a fairy; the symptoms being those of cardiac weakness and indigestion; for which little food is to be taken. You will see, therefore, that Eddyism and Easternism are not so very far apart!

Amongst the lower classes of the people of India, surgery, except in the use of the bluntest knife, is almost unknown; and, indeed, it is their horrible, conservative fatalism that is one's greatest bugbear. Many times I have seen compound fractures only admitted to hospital either *in extremis* or with peripheral gangrene, the relatives having done nothing, perhaps for a week or more, but apply neem oil.

So far I have spoken only of India; but before finishing, I should like to mention two customs I have recently observed in Upper Burma—the one horrible, the other almost rational. The first is the Burman method of helping a difficult or prolonged labour, by merely jumping on the abdomen of the woman as she lies on the floor; or massaging the abdomen

with his feet, the results being often terrible to both child and mother. The second is their specific for cholera, which they suppose to be due to the evil influence of a spirit; a bell is rung, and then all the villagers collect and rush to the tops of their reed houses and make a tremendous commotion, beating gongs and striking the roofs with a sort of native broom. This, they affirm, drives the evil spirit from the house and village, and certainly on occasion it has some effect; probably owing to the fact that they are all so elevated and engrossed in pursuit of the "Nat," or spirit, that little opportunity is afforded for the despondent and crushing effects of the cholera.

The story of plague is another instance of fatalism or superstition almost incomprehensible in the West. Quite recently, I remember, over a quarter of a million Mussulmans died, in one province alone, because they refused to leave their infected villages, on the ground that the Koran forbids a Mohammedan to flee from the wrath of God.

The natives swarm and herd together in enormous numbers amid unclean surroundings, and the B. Pestis takes its corresponding toll; but "kismet" is the only answer. Discouraging indeed is the work of the plague officer in districts as big as the County of Gloucester. Oft-times he is met with the tale, concocted by agitators, that plague is no disease, but a devilish contrivance of the Government to reduce the population, and this slander is believed. Indeed, the natives of India and Burmah view with the greatest abhorrence and suspicion such things as precautionary measures, segregation and disinfectants. Verily, *sunt lachrymæ rerum et mentem mortalia tangunt.*

Progress of the Medical Sciences.

MEDICINE.

Amyotonia Congenita.

In the spring of 1906 a girl suffering from amyotonia congenita was shown at a Bristol meeting of the British Medical Association. This was the first case described as such in England, though the disease was defined by Oppenheim in 1900, and other instances

had come under review in Germany, Italy and America. Since that time the literature has been amplified by contributions from these same countries, as well as from England and France, and it is gratifying to find that the fullest and best account of the disease, up to the present time, emanates from Queen's Square. Two papers, the first [1] by J. S. Collier and S. A. K. Wilson, and the second [2] by J. S. Collier and Gordon Holmes, provide us with a knowledge of the disease as exhaustive and accurate as we are likely to possess for many years to come.

The *causation* is obscure. Muscular flaccidity is noted within a few hours of birth as a rule, but in a few instances it seems to have been not congenital but acquired, following acute infections in early infancy. Sex has no determining influence, neither is there a familial factor; the maternal health during pregnancy gives no clue, and, indeed, nothing certain is known as to the origin of the disease, except that as a rule it seems to arise during intra-uterine life.

For our knowledge of the *pathology* we depend upon three autopsies—one recorded by Collier and Holmes, [2] another by Spiller, [3] and a third by Baudouin. [4] Muscle has also been excised during life, and examined by the English observers and by Bing. The muscles are small, and there is a very considerable excess of interstitial fat. Most of the fibres are remarkably slender and loosely packed; among these are a few enormous fibres undergoing regressive changes. The degree of alteration varies widely in the different muscles. The walls of the blood-vessels supplying the muscles are thickened, and in some sections perivascular foci of cellular infiltration are seen. The appearances are therefore similar to those seen in sections of muscle from cases of myopathy. The ventral horns of the cord are poor in cells, and the anterior roots contain relatively few myelinated fibres. Collier and Holmes consider that these data suggest a regressive change rather than a developmental anomaly.

The characteristic *symptoms* are muscular weakness and flaccidity. This latter feature is due to an absolute tonelessness of the affected muscles associated with laxity of ligaments and other structures, so that the limbs can be passively contorted into most curious and gruesome attitudes. The muscular power, though very feeble, is never quite gone, and the muscles feel small and soft, though occasionally contractures are seen. Fibrillary tremor has never been observed. Galvanic currents cause a response, not so Faradic, (in the Bristol case reaction to both was diminished). The distribution of these phenomena is important. It is symmetrical, and may be universal (except that the muscles of chewing and swallowing have been spared in

[1] *Brain*, 1908, xxxi, 1. [2] *Ibid.*, 1909, xxxii, 269.
[3] *Univ. Penna. M. Bull.*, 1905, xvii, 342.
[4] *Semaine Méd.*, 1907, p. 241.

all cases recorded hitherto). The face suffers least often, the lower limbs most often. The muscles are not affected singly, or in groups determined by nerve supply; the affection seizes impartially on nearly all the muscles of a limb, the peripheral muscles always suffering most. Neither mind nor sensation is affected, and the sphincters escape. The deep reflexes are lost in muscles that are profoundly weakened.

The *course* of the disease is towards recovery, provided the period of infancy, with its pulmonary dangers, be overpassed safely. This amelioration is helped by *treatment* consisting of massage, electricity and tonics.

Syphilis and Aortic Lesions.

Recent researches have thrown so much light on the causation and diagnosis of syphilis, and so much importance has of late been attached to lesions of the aorta, that it is not surprising to find many data coming to light by which the relation between syphilis and aortic disease may be more precisely defined than heretofore. The evolution of our present knowledge of this matter can be traced from its beginnings in those clinical observations by which aortic insufficiency in middle life, and aortic aneurysm, were linked, in a large percentage of cases, with a history of syphilis. The next step may be said to consist in the separation of mesaortitis from other forms of arterial decrescence, and this particular lesion was soon found by Chiari and others to occur with significant frequency in connection with general paralysis and other syphilitic lesions. To these facts must be added others of more recent discovery. Klotz[1] has noted the occurrence of mesaortitis in infants with inherited syphilis (exemplified by a case of abdominal aneurysm in a young congenital syphilitic, recently shown by Dr. Nixon); Wright,[2] Schmorl,[3] and Benda[4] have all succeeded in demonstrating the spirochæta pallida in connection with the inflammatory foci of mesaortitis; while more recently still Longcope[5] has given a detailed account of twenty-one cases examined *post-mortem*, in which mesaortitis was associated with a chronic deforming inflammation of the aortic valves. In eleven there was a history of syphilis, in three of rheumatic fever; the majority were men in middle life. This group is compared with two others—one of twenty-one cases, in which aortic and mitral endocarditis were associated as a result of rheumatic infection, a group easily separable from the syphilitic cases described above; and another of thirty-four cases, mainly elderly men, with ordinary atheroma of the aorta. What is perhaps of most practical importance is that although in these, as in the cases of mesaortitis, the aortic

[1] *J. Path. and Bacteriol.*, 1907, xii, 11.
[2] *Boston M. and S. J.*, 1909, clx, 539.
München. med. Wchnschr., 1907, liv, 188.
[4] *Berl. klin. Wchnshcr.*, 1906, xliii, 989.
[5] *J. Am. M. Ass.*, January 8th, 1910, liii.

valves were diseased, yet in the syphilitic group signs of aortic insufficiency were nearly always present during life, while in the senile cases such signs were almost never found. The inference to be drawn is that when clinical methods of examination suggest a diagnosis of aortic disease a syphilitic origin may be suspected, especially when there is evidence of aortic without mitral endocarditis. This is confirmed by various observers who have used the Wassermann reaction. Citron[1] found a positive reaction in 62.5 per cent. of a series of cases of aortic regurgitation, without mitral disease; Schulze,[2] in twelve cases of aortic disease, obtained a positive result eleven times; Collins and Sachs[3] in seventeen out of eighteen cases; and Donath[4] in 85 per cent. of his series. To sum up, aortic regurgitation, and other aortic lesions clinically discoverable, are to be regarded as due to syphilis in such cases as are not rheumatic in origin, and should be treated accordingly.

Sloughing of the Scrotum in the New-born.

The infective processes of early infancy are characterised by a peculiar intensity and virulence. A very interesting example was described in a paper read several years ago at a Bristol meeting of the British Medical Association, by Dr. Newman Neild, on necrosis of the mammary gland in early infancy, with an associated fatal pyæmia. A similar affection is the subject of a paper by Lilla,[5] who describes the case of a male infant, ill-conditioned as the result of mistakes in feeding, admitted to hospital at the age of two weeks. Six days before a small boil had appeared above the pubes; this was practically cured at the time of admission. The child was feverish and very weak, passing frequent green stools. The scrotum and penis were much swollen; on the latter there were several points of inflammation, and on the scrotum a greyish-white area of necrosis was seen, which on incision proved to implicate the whole thickness of the scrotal wall. Both penis and scrotum were opened up and fomented, and the child recovered; not, however, without incident, for two abscesses appeared, one in the right buttock and the other on the left knee. Lilla refers to about a dozen other similar cases which have been recorded. The principal features are the predisposing influence of malnutrition, the fact that it usually occurs about the end of the first month (which is against the prevailing theory that the portal of infection is the umbilical scar, as it certainly was not in Lilla's own case), its liability to be followed by pyæmia, and the predominance of streptococci as causal agents.

CAREY COOMBS.

[1] *Berl. klin. Wchnschr.*, 1908, xlv, 2,142.
[2] *Deutsche Ztschr. f. Chir.*, 1908, xcv, 1–5.
[3] *Am. J. M. Sc.*, 1909, cxxxviii, 344.
[4] *Berl. klin. Wchnschr.*, November 8th, 1909.
[5] *Gazz. d. Osp. e d. Clin.*, January 6th 1910.

SURGERY.

The treatment of growths of the bladder, particularly of those malignant in type, leaves much to be desired, and the by no means satisfactory results obtained are a sufficient plea for the more radical methods of treatment which for some years have been advocated and practised by an increasing number of continental and American surgeons well versed in genito-urinary work.

These procedures have made but little headway in this country, probably from the fact that the first attempts in the direction of more radical operations proved disastrous, producing an unwarrantable mortality, which with an improved technique, although still high, is gradually falling to a more reasonable figure, justifying the application of the more thorough methods of operation to the bladder, which has been applied to malignant growths elsewhere.

The most complete statistics on the results of operative treatment of bladder tumours are those compiled by Watson,[1] who collected the results of operative interference on 653 cases of vesical growths, with a view to substantiating his proposal to substitute bilateral lumbar nephrostomy and the establishment of renal fistulæ in cases of bladder tumours, for urethral implantation in connection with bladder resection or total extirpation, and that the bladder operation be done after an interval, and not together with the nephrostomies.

Of these cases 243 were benign and 410 malignant, the former class including papillomata, 203; myoma, 20; myxoma, 16; adenoma, 1; angioma, 2; the latter, carcinomata 358 and sarcomata 52.

He studied them with reference to the mortality attending each special operative method, in each special variety of tumour and the frequency of recurrence and freedom from recurrence that are seen in connection with the performance of each special operative method and each type of tumour.

He shows that the operative mortality in benign tumours apart from myoma is 12 per cent., with these 17 per cent., that in carcinoma it is 27 per cent., and in sarcoma 63 per cent.

With regard to the mortality, with reference to the type of operation and to that of the tumour, his statistics show that, in operation on so-called benign papillomata via the urethra, the mortality is 9 per cent., and in carcinoma 20 per cent.

With suprapubic operations in which resection was not performed the mortality in papillomata was 11.3 per cent., in myomata 15.3 per cent, in carcinomata 28 per cent., and in sarcoma 63 per cent.

By suprapubic methods, with partial resection of the bladder,

[1] Watson, *Ann. Surg.*, 1905, xlii, 806.

benign growths, including myoma, showed a 9.5 per cent. mortality, and carcinoma a mortality of 18.6 per cent.

Total extirpation of the bladder in twenty-five cases gave a mortality of 56 per cent.

Watson calls attention to the interesting fact which these statistics show in connection with the mortality of suprapubic operations, that in carcinoma, without resection, the death rate was 28 per cent., but with resection fell to 18.6 per cent ; in papilloma, without resection, 11.3 per cent., and with, but 9.5 per cent.

The lowest mortality shown is that of benign tumours removed by partial resection when operated on through the female urethra or the perineal urethra in the male.

He next takes the freedom from recurrence for more than one year according to the nature of the operation and the tumour, and finds the percentage in papillomata removed by urethral methods to be 28.2 per cent., by suprapubic operations, without resection, 27.5 per cent., and with resection 37.5 per cent.

In carcinomata removed suprapubically without resection freedom from recurrence for more than one year was 31.8 per cent., with resection 21 per cent. ; but with total cystectomy 54.5 per cent. remained free from recurrence for more than one year.

He sums up the results of operative treatment to the present time as follows :—

If the operative deaths and rapid recurrences are combined under the one heading of operative failures, such are seen to have occurred in 28.6 per cent. of benign tumours, exclusive of myoma, and in 46 per cent. of carcinomata.

He considers the question of the advisability of operating on these cases radically or not, and gives the following considerations that weigh for and against operative treatment, namely :—

That the condition if not removed is necessarily fatal, and beyond palliative treatment. That it is a suffering condition in the later stages, which in a number of cases palliative treatment cannot relieve. That there are a few patients who have been apparently wholly cured, and many more for whom radical operations have secured long intervals of freedom from suffering and symptoms. That the tendency to hydro- and pyo-nephrosis being frequently associated with bladder tumours, from involvment of the ureteric orifices, early operation would probably prevent these conditions. Also that tumours of the bladder are believed to change from a benign to a malignant type. Against these considerations for the operation he places the following : The large proportion of operative failures and the high mortality. The fact that in many cases of benign, and in some malignant tumours, there is a long interval between the appearance of the first symptoms and the time at which the patient's suffering is enough to cause him to seek advice. The futility of operating in

cases of carcinoma in which metastases are already present, and the difficulty of determining whether they exist or not. Lastly, the hopelessness of operating in myxoma and sarcoma. He considers that the factors for operation outweigh those against it, provided that the growths dealt with are benign, or carcinoma which is apparently limited to the bladder, an opinion which is held by Albarran,[1] Young, etc.

As the percentage of recurrences is so large under the present operative methods, more radical treatment is indicated both in benign tumours, which after removal have recurred, and in malignant growths.

The mortality of total extirpation is very high, and apparently largely due to the methods of implantation of the ureters that have up to the present time been adopted, together with the fact that these have been carried out at the same time as the cystectomy, greatly increasing the shock of operation. Albarran[2] states that in the first twenty-six total cystectomies seven patients died from shock, which he considers due to a large extent to this means of prolonging the operation. Various sites have been used for implantation of the ureters.

Bardenheuer[2] in 1887, who was the first to perform total cystectomy, transplanted them into the abdominal wall, but the patient died of uræmia in fourteen days.

Pawlick[3] in 1888 successfully removed the whole bladder, implanting the ureters into the vagina; the patient was alive fourteen years later. The operative mortality is apparently influenced by the site of the implantation, and seeing that when in simple vesico-vaginal fistula the ureters are implanted into the rectum a mortality of 40 per cent. ensues, it is not surprising that it should reach the impossible figure of 76 per cent. following total cystectomy when implanted in that position.

Implantation into the vagina gives somewhat better results, the liability to sepsis and kinking of the ureters being less. Implantation into the urethra has been done on four occasions, with three deaths from shock.

When carried into the wound contraction is likely to occur at the orifice, and the diversion of the course of the ureters aids in producing hydronephrosis.

As an alternative to these methods Watson offers bilateral permanent nephrostomy as probably a more satisfactory proceeding than transplantation of the ureters, and for these reasons: That in Schmieden's statistics, quoted by Watson,[4] of 626 cases of nephrostomy, done for various conditions of the kidney, together with 353 he himself collected, the mortality was found to be but 15 per cent.

[1] Albarran, "Médecine Opératoire des Voies Urinaires," 1909.
[2] Quoted by Albarran, *Op. cit.*
[3] Pawlick, *Wien. med. Wchnschr.*, 1891, xli. 1,814.
[4] Watson, *Ann. Surg.*, 1905, xlii, 806.

As a result of these findings he advocates nephrostomy at intervals of a few weeks on each kidney, as a preliminary to extirpation of the bladder in suitable cases, which should be performed some four to six weeks later.

Apparently the best site for ligation of the ureters in nephrostomy is at a point as near the kidney pelvis as possible.

An excellent description of the technique of total cystectomy is given by Albarran in his "Médecine Opératoire des Voies Urinaires," 1909. Briefly it is as follows :—

The bladder is distended with fluid, the patient being in the position for perineal prostatectomy, a transverse incision is made in front of the anus, and through this the prostate and base of the bladder are separated from the rectum as high as possible. The Trendelenburg position is then adopted, and the bladder, through a transverse hypogastric incision, is separated from the peritoneum down to the perineal wound. By traction through the perineal wound the separation of the anterior part of the bladder is facilitated. The ureters and lateral vascular pedicles are then divided, and lastly the urethra cut across with the thermocautery.

The operation is more easily performed in the female, the first incision being through the anterior vaginal wall.

Pawlick, as cited by Albarran, proceeds in a similar manner, but implants the ureters into the anterior vaginal wall, and sutures the anterior and posterior walls of the vagina to the corresponding walls of the divided urethra, the vagina forming a receptacle for the urine.

Recent total cystectomies, adopting Watson's suggestion of preliminary nephrostomies, have been successfully performed by Cabot,[1] Young,[2] Genersich,[3] Rorsing.[4]

With regard to partial cystectomy, which Watson's statistics show without doubt to be indicated in benign tumours, both in respect to mortality and freedom from recurrence Albarran's[5] description is an excellent one, and briefly is as follows :—

The transverse incision is employed, the bladder opened, after having reflected the peritoneum beyond the growth, which is then, according to its position, removed from without in or *vice versa*. The first method is employed when the tumour is situated on the anterior or lateral wall. The latter when the growth lies at the neck or in the region of the ureteric orifices. When involving the ureteric orifice, this, with the growth, is removed, and the cut end of the ureter implanted into the site of the incision ; but when the ureter needs transplanting, and is not involved in the growth,

[1] Cabot, H., *Tr. Am. Ass. Genito-Urin. Surgeons*, 1909, iv, 125.
[2] Young, *Ibid.*, 1908, iii, 76.
[3] Genersich, "Urologia" (Budapest), 1907–8, 45–47.
[4] Rorsing, *Ztschr. f. Chir.*, 1907, xxxi, 94.
[5] *Op. Cit.*

it is secured into a separate button-hole made in the bladder wall away from the excision wound.

The intraperitoneal method of resection has recently sprung into vogue. In 1893 Harrington[1] recorded a successful intraperitoneal partial cystectomy. Mayo[2] in 1908 reported five cases of successful transperitoneal partial cystectomy, Scudder[3] four cases, and Primrose[4] and Cabot[5] single cases by this method. Van Ruediger Rydygier[6] has also practised this method. Berg[7] advocates and has successfully practised this method, but in addition, as a preliminary, removes all the pelvic glands and lymphaties likely to be infected.

It will, perhaps, not be out of place here to offer a suggestion, which I have been able to carry out practically in one case with some success, for the treatment of inoperable cases of the infiltration type of carcinoma of the bladder, in which the condition is almost unbearable from the associated cystitis giving rise to intolerable pain, occurring every few minutes with the frequency of micturition that usually exists. It has been observed in such cases that when the growth extends to the neck of the bladder incontinence ensues, and with the establishment of this condition the agonising pain of spasm of the neck of the bladder disappears. This suggested to me that permanent dilatation of the urethra might relieve this almost unbearable condition, so I proceeded to widely dilate the urethra in a woman thus afflicted, with the result that all the pain produced by the frequent micturition ceased, and she slept throughout the night, which she had been unable to do for months, thus apparently justifying one in such a procedure, for the suffering is sometimes so great in these cases that morphia fails to relieve it, and Fenwick[8] has suggested that even division of the spinal cord in the lumbar region is justifiable as a means of relieving it.

C. FERRIER WALTERS.

OPHTHALMOLOGY.

Of dealing with **chronic glaucoma,** like the making of books, there appears to be "no end." It was said long ago that the number of operations designed for the cure of entropium was some criterion of their success; so it is with chronic glaucoma. It seems almost impossible to prevent the wound healing closely with a subsequent return of the high tension. One reason doubtless for the non-success is that patients will not submit to

[1] Harrington, *Ann. Surg.*, 1893, xviii, 408.
[2] Mayo, *Ibid.*, 1908, xlviii, 105.
[3] Scudder, *Ibid.*, 1908, xlviii, 862. [4] Primrose, *Ibid.*, 1909, l, 1137.
[5] Cabot, A. T., *Tr. Am. Ass. Genito-Urin. Surgeons*, 1909, iv, 119.
[6] Rydygier, *Zentrabl. f. Chir.*, 1909, xxxvi, 372.
[7] Berg, *Ann. Surg.*, 1904, xl, 382.
[8] Fenwick, "Handbook of Clinical Cystoscopy," 1904.

operations until the disease is far advanced. At first the attacks are so insidious that little pain is produced; there is merely a narrowing of the field on the nasal side, with now and then a slight exacerbation, which is shown by a fog or halo round lights, or a smoky look in the air of a room. The central vision remains normal, often for years, and even when the field is cut down to a circle of about 10 or 20 degrees the central vision may still be 5/9 and with suitable glasses J1; still, the disease is there, and producing its untoward results. Of course, one must not forget that the cause of chronic glaucoma has not yet been determined. A wide difference of opinion exists between the Priestley Smith theory—that the root of the iris is crushed up against the cornea by the swelling lens in small hypermetropic eyes, thereby closing the meshes of the ligamentum pectinatum, through which the aqueous humour escapes into Schlemm's canal—and the Henderson theory—that the high tension is due to a sclerotising of the fibres, and consequent blocking of the ligamentum—and this may account for the partial success of the numerous operations; at any rate, it is admitted by nearly everyone that iridectomy, although it may do much good in acute glaucoma, is not by any means an entirely successful operation for the chronic form. Many ophthalmic surgeons have lately advocated newer methods; of these we may mention Legrange, Abadie, Herbert, Freeland Fergus, Elliott. There is a good deal of controversy at present as to who was first with these operations, and one hesitates to be drawn into the discussion. After all, what most surgeons want to know is, what the operation is and if it was successful, and not who did it or described it first. The main thing in operating is to get a filtrating scar which will allow escape of aqueous when the tension gets high. At first leaving a portion of iris in the wound and so preventing the close healing was advocated. This was found to lead to a subsequent cyclitic irritation, and owing sometimes to absorption of germs by the iris, caused a sympathetic ophthalmia, so that method was given up. Next came an operation for enclosing or tucking into the wound of a piece of conjunctiva turned in from above. Much difficulty was found in keeping the conjunctiva *in situ*. The conjunctiva was at one time stretched on to the back of the corneal flap, but naturally this did not turn out well. Next an incision was made after the manner of an ordinary cataract wound, but shorter, and with a long conjunctival flap. The top of the sclero-corneal flap was cut off with scissors, leaving a crescent-shaped aperture, which was covered with the replaced conjunctival flap. Following this came an operation done in the following manner[1]: the sclero-corneal wound as before with the conjunctival flap; then instead of cutting off the corneal part a piece of sclera was

[1] *Ophthalmoscope*, November, 1909.

punched out with a cutting forceps such as the rhinologists use, but very small. Finally, Fergus,[1] having lifted a conjunctival flap, used a trephine to perforate the sclera about 3 or 4 m.m. from the limbus. Following this, he pushed an iris repositor between the ciliary body and the sclera until he could see the point showing in the anterior chamber. He lays stress on this cyclodialysis, and says it is most important. Elliott[2] does not do cyclodialysis; he strips the conjunctiva down as far as he can, and makes his trephine hole straight into the anterior chamber. If it is necessary, that is to say if the iris bulges into his trephine hole, he excises the portion of iris protruded, so doing a tiny iridectomy. Both the trephining surgeons are greatly pleased with their operations, which they say are always successful, and have never failed to cause a lowering of tension which is permanent. They also lay stress on the ease of the operation compared with the others; in fact, Elliott says his operation is within the reach "even of a tyro." It will be a great relief to ophthalmic surgeons and their patients when some definite decision has been come to as to which is the best operation for this bugbear of a disease; still, more has been attained during the last two or three years than during the preceding fifty years.

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Cataract extraction, or expression, as some would like to call it, is, unlike operations for chronic glaucoma, a singularly successful procedure; hence there are very few alterations to chronicle; in fact, there are only two worth mentioning. The first is concerned with the conjunctival flap. It has been found that where a conjunctival flap is left adhering to the corneal edge of the wound healing takes place sooner and is more effectual. The wound is also protected from the entrance of germs that may be present in the conjunctival sac. The disadvantage of this flap during the operation is that there is much bleeding, which unless constantly mopped up, thereby delaying the finish of the operation, obscures the view; furthermore, if the flap be turned down over the cornea, so as to be out of the way while the iridectomy is made, it prevents one seeing the points of the iris forceps and also the beak of the cystotome, which ruptures the lens capsule, so that one has to work in the dark and trust a good deal to Providence. Several operators—again the question of precedence crops up—suggest now that the conjunctival flap should not be completely cut through,[3] but that the upper end (the cornea having been divided) should be left adhering to the remainder of the conjunctiva and the lens expressed under this bridge, and so eventually extracted. Seeing that the ordinary results are so good, this seems to one an unnecessary complication to the operation; and although

[1] *Ibid.*, February, 1910. [2] *Ibid.*, December, 1909.
[3] *Ibid.*, November, 1909.

the suggestors, or rather, we might say, the resuscitators (for the operation was suggested by Czermak many years ago, but allowed to fall into disuse), claim brilliant results, the usual method is good enough for most people. The second improvement in cataract operation[1] is the revival of the McKeown method of washing out the lens debris from the anterior chamber. This is found to be a useful procedure in cases where the cataract is not quite ripe, and some clear debris may be left behind. The modification of McKeown's method is that, instead of using a syringe to either suck out the debris or wash it out, a constant stream is used from a douche, the raising or lowering of the receptacle for the warm saline solution, which is employed now, providing the necessary force for the stream. One of the advocates of this proceeding mentions at the end of his article that perhaps the method, unless in the hands of the very experienced operator, may do more harm than good, and is perhaps better left alone.

A. OGILVY.

Reviews of Books.

The Treatment of Gonorrhœa in the Male. By CHARLES LEEDHAM-GREEN, M.B. Second Edition. Pp. xii, 160. London: Baillière, Tindall & Cox. 1908.

Within moderate compass this book gives the reader a good and eminently practical account of the treatment of gonorrhœa in the male, and of the methods by which the seat and character of the urethral inflammation are determined.

The newest matter in the second edition of the book is a short description of Goldschmidt's irrigation urethroscope. Whether this ingenious instrument, which gives apparently a much better view of the posterior urethra than that obtainable with ordinary urethroscopes, will prove of much practical value in diagnosis and treatment remains for future decision. The description of the use of ordinary urethroscopes is meagre and will not greatly help the student, who must turn to the larger works of continental writers, especially to the classical works of Oberländer and Kollmann, for detailed information. But the art of using urethroscopes and the ability to correctly interpret the visual impressions obtained with them, and the appreciation of the practical bearings of these, can only be acquired by prolonged and patient practice, not from books. For this reason but few general hospital surgeons, not to mention general practitioners, can use urethroscopes advantageously. Those who wish to do so

[1] *Ibid.*, November, 1909.

should first attend special clinics where the instruments are extensively used. Fortunately in the majority of cases of chronic gonorrhœa less difficult methods of examination enable treatment to be successfully conducted.

Much more may be said for the use of the urethral dilators of Oberländer and Kollmann, some varieties of which are described and illustrated in the text. It is surprising and regrettable that these instruments are so little used by British surgeons.

The later part of the book deals briefly with the commoner complications of gonorrhœa, and an important section on the proof of the cure of the disease and its bearing on marriage brings to a conclusion a work which we can cordially recommend to all practitioners, and especially to those who have not the opportunity of studying the more exhaustive treatises on the subject.

Sprains and Allied Injuries of Joints. By R. H. ANGLIN WHITELOCKE, M.D., M.C. Pp. xvi, 241. London: Oxford Medical Publications. 1909.

We welcome this book as a clinical treatise based upon the exceptional experience of the writer in this branch of surgery. It may be regarded as a counterpart, from a different point of view, of the excellent clinical work of Sir Wm. Bennett upon the same subject. The illustrations are particularly valuable, being photographs of cases, skiagrams, and specimens; and they are exceptional in providing examples of the ill-effects of treatment by bone-setters, such as we have not seen before, and of some of the rarer lesions of bones accompanying so-called sprains. It is perhaps strange, however, that no illustration is given of fracture of the tuberosity of the fifth metatarsal bone, of which we have seen several examples, and which is more frequent than recognised. There are excellent photographs showing the technique of operation for exploration of the knee-joint; and we regard the book as a useful contribution to surgical literature, especially when read in conjunction with other works of its class.

The Open-air or Sanatorium Treatment of Pulmonary Tuberculosis. By F. RUFENACHT WALTERS, M.D., B.S. Lond. Pp. xiv, 323. London: Baillière, Tindall & Cox. 1909.

This excellent exposition of sanatorium life and work by one who is a thorough master of it cannot fail to be instructive to the reader. The first chapter concludes as follows:—

"There is no difficulty in preventing the spread of tuberculous infection if only people will take the trouble; moreover, if the bacillus gets into the body, no ill-effects follow unless the constitution has been undermined by unsatisfactory conditions of life, or has been enfeebled by a strong hereditary taint; so that the

best safeguard of all is to improve the constitutional vigour by a return to more healthy ways of life."

How this is to be done effectually is fully disclosed in the twenty-seven chapters of Part I, and the 101 sections of Part II. It is intended that the book shall be of value not only to the doctor, but the intelligent patient, who needs guidance both in the sanatorium and after.

The Morphia Habit, and its Voluntary Renunciation. By OSCAR JENNINGS, M.D. Pp. x, 492. London: Baillière, Tindall & Cox. 1909.

This personal relation of a suppression after twenty-five years' addiction cannot fail to be of much interest to all medical men. The author in his preface states "that one medical man out of four is a drug *habitué*, usually a morphinist, that the proportion of medical addicts to the total of cases is in some statistics as high as 90 per cent., and that one-fifth of the mortality in the profession is said to be caused by morphinism." We cannot but think that these statements are grounded on fallacies of observation or statistics, as certainly they are not in harmony with general experience. Medical men are as a rule cautious in their use of active drugs, and discontinue them when the indications for them have ceased; satire usually credits them with a tendency to give drugs to other people but to take none of them themselves. However, whether the patient be medical or otherwise, he may learn from this book that "if he intends and wills to do so, he can cure himself."

Poisoning by Arseniuretted Hydrogen, or Hydrogen Arsenide. By JOHN GLAISTER, M.D. Pp. ix, 279. Edinburgh: E. & S. Livingstone. 1908.

This is a systematic investigation of permanent value, since the commercial use of metals and acids contaminated with arsenic is enormous, and the danger from the evolution of this gas in many processes is a frequent one. As the use of balloons and airships increases, accidents will become more common from the arsenic in the hydrogen gas used. It is lamentable to find how many lecturers in chemistry have been killed by the gas, besides workers in various commercial processes, such as anilin and galvanising manufactures, and in brazing by a hydrogen flame.

Besides symptoms of arsenical poisoning, this gas causes a remarkable jaundice, of a more or less coppery colour, hæmaturia, and other hemorrhages with profound alteration in the blood. The author is inclined to ascribe the jaundice to resorption, as Stadelmann does in the case of toluylendiamin poisoning, but discusses the other views which have been brought forward.

The symptoms have to be distinguished from those due to Blackwater fever, paroxysmal hæmoglobinuria, Weil's disease, and poisoning by chlorate of potash and pyrogallic acid.

The gas generated from arsenical wall-papers by the action of moulds, though not arseniuretted hydrogen, is a near ally of it—di-ethyl-arsine—and in many cases produces the remarkable jaundice of the former, and sometimes spinal troubles. One of the most valuable parts of the book is the full report of 120 cases of poisoning, with an analysis of the symptoms, collected from English and foreign authors, and a discussion of recent analytical methods.

A curious misprint occurs on page 86, where we read, "He generated sufficiently more gas to produce an explosion."

Rhinology: A text-book of Diseases of the Nose and the Nasal Accessory Sinuses. By PATRICK WATSON WILLIAMS, M.D. (Lond). Pp. xvi, 273. London: Longmans, Green and Co. 1910.

It was formerly customary to include rhinology as a small and unimportant addition to a text-book of laryngology, but the subject has made such advances of late that it well deserves a separate consideration, and we have before us a handsome volume of nearly 300 pages, illustrated with 28 stereoscopic plates, 19 ordinary plates and 146 other illustrations, all devoted to the once despised subject of nasal surgery.

The stereoscopic plates are a great feature of the book. Some of the most striking are taken from specimens of Professor Zückerkandl, of Vienna, but many others are from dissections and preparations made by the author himself, and when looked at through the small and handy stereoscope supplied with each copy of the book give a most realistic idea of the somewhat complicated relations of the cells and sinuses which surround the nasal cavities.

Some of the plates are by Professor Onodi, of Budapest, and these show in a most clear manner the relations of the nasal sinuses to the orbit, while many other illustrations render the book invaluable to the student in following the written description of operations on the parts in and around the nose.

The first section is devoted to examination of the nasal passages, which is made easy for the student to follow by reason of the remarkably clear illustrations. After a brief section on the anatomy and physiology of the nose, the subject of rhinitis is dealt with, and the various varieties of this affection described. The author looks upon atrophic rhinitis as a chronic inflammatory degeneration of the nasal mucous membrane due to infection by various organisms, and in some cases determined by conditions

of the nature of a tropho-neurosis. He very rightly points out that local treatment is at the best only palliative.

In removal of the hypertrophied pharyngeal tonsil (adenoids) the author advises the use of Gottstein's curette as modified by St. Clair Thomson or Beckmann, and he always holds the curette as one holds a table fork. When both tonsils and adenoid growths have to be removed he first operates on the pharyngeal growths, and then on the tonsils, unless the latter are so large as to interfere with the passage of instruments into the naso-pharynx, his reason being that hemorrhage in the naso-pharynx can be controlled by a plug, so that when the tonsils come to be removed the parts are not encumbered with blood. We think that most operators prefer the opposite order of procedure, as the bleeding from the cut tonsils interferes very little with the passage of the curette into the naso-pharynx.

The section devoted to diseases of the nasal septum is one of the best in the book, and the modern operations on septal deflections are fully described. The author's own operation seems an excellent one. The first makes a small incision on the concave side, through which he elevates the soft parts and afterwards removes the deflected part of the septum through an incision on the convex side. The results of this operation seem all that can be desired, and no one would now wish to go back to the old, clumsy method of crushing the deflected septum with forceps—one blade in each nostril—which some of us used to practise.

The most important sections of the book are naturally those devoted to the diseases and operations of the accessory sinuses. This department of surgery has all sprung up during the last few years, and although it has doubtless been much overdone by some enthusiastic operators, yet has furnished some of the most brilliant advances of modern surgery. The author points out that the large majority of cases of sinusitis are due to influenza, and it is only since the occurrence of influenza epidemics in 1889 that inflammatory diseases of the accessory sinuses have become common affections. When they do occur they give rise to the most distressing symptoms; indeed, the author met with a case where frontal sinus suppuration was the cause of loss of memory in a lady, so that she stole a valuable ring from a friend's house!

We do not doubt that most cases of sinus inflammation yield to general treatment, but here and there cases occur demanding radical procedures, and then the operations described and figured by the author in this book are urgently demanded.

In chronic suppuration of a frontal sinus the mucous membrane is generally diseased beyond the possibility of recovery, and nothing short of obliteration of the sinus will then cure the patient. In order to effect this an operation of some magnitude is necessary, but the author has never had a death after his operation, which doubtless looks more formidable than it really

is, and it is surprising how little deformity is left afterwards, as is proved by photographs given in this book of patients after their recovery.

We consider that this work by our Bristol *confrère* will meet a much-felt want, and will reflect honour on Bristol surgery.

The author's former work on the nose and throat, which ran through four editions, has been out of print for some years; we therefore look forward to the corresponding volume on Laryngology, shortly to appear as a companion to this one, which is an ideal text-book on diseases of the nose, and cannot fail to be of great service to the general practitioner as well as to the operating surgeon.

Considering that it includes such an excellent atlas of plates, it is extraordinary value at the published price, and we may congratulate the publishers on their enterprise.

Functional Nervous Disorders in Childhood. By LEONARD G. GUTHRIE, M.A., M.D., F.R.C.P. Pp. x, 300. London: Oxford Medical Publication. 1907.

This book is a rarity among modern medical books. Not only is it a thoroughly practical manual of the subject with which it deals, but it is written in a style which carries the reader along pleasantly and profitably to the last page. It is written by a clinician sitting in the library arm-chair, and the delightful blend of a wide reading in general literature with the practical detail of medical treatment may be illustrated well by the following extracts from the index, thus: "Pepys; Petit mal; Phillpotts"—Eden, by the way; "Phimosis, as a cause of eneuresis, of stammering; Pianese; Pica; Pitres; Plato; Poe; Polyuria; Porridge; Porot, A.; Poynton and Paine; Psammetichus; Puberty, splenic pain in." And again: "Tertullian; Tetany; Thackeray; Theresa of Castile; Thigh rubbing; Thompson (*sic*), John; Thymic asthma; Tics; Tissot; Tobacco; Tolstoy; Traumatism, as a cause of neurasthenia; Triboulet; Trollope, Anthony."

In dealing with these neurotic children, and incidentally with their parents, there is shown throughout a healthy common sense, tempered with sympathy. The author's views are clearly expressed without too much dogmatism, and his sense of humour, keen but kindly, is a delight to the reader.

Such chapters as those on "Mental and Educational Overstrain," "Moral Failings of Nervous Children," are particularly valuable, for the family physician is frequently consulted on these matters, and it is difficult to find a book where they are treated in any way adequately.

The chapter on chorea contains the author's method of treating this disease. He does not rely entirely upon rest and drug treatment, but by means of suggestion and guided movements

tries to restore the complete control of the will over voluntary movements.

Some of the diseases included in this volume cause at first some surprise at their inclusion, such conditions as idioglossia, hypertrophic stenosis of the pylorus, and migraine. The last disease, common in children and frequently overlooked, seems to occur rather more frequently amongst neurotic children, but not to any very striking extent; and there is a strange omission of any reference to the use of podophyllin in sub-purgative doses, a drug as useful in this disease in children as it is in adults.

It is most necessary that those who have much to do with schools, both teachers and physicians, should thoroughly understand the underlying temperament of the pupils, and realise that when the neurotic temperaments are understood some of the most brilliant successes will be found amongst these neurotic children.

Although the title of this book has obviously not been chosen with that end in view, the book has already found its way on to the shelves of many teachers and parents of nervous children, and the practitioner will be wise if he provides himself with a copy of this sound and useful work.

Neurasthenia. By GILBERT BALLET, M.D. Translated from the third French edition by P. CAMPBELL SMITH, M.D. Pp. xxviii, 408. London: Hy. Kimpton. 1908.

This translation renders accessible to English readers a book which has deservedly attained a high reputation in France. It is the outcome of a wide experience and, what is of equal importance in dealing with this subject, of a sound judgment. The various states grouped under the generic term of neurasthenia are so common in all kinds of practice, that help is frequently required both as to diagnosis and treatment. If the diagnosis presents numerous pitfalls, treatment no less often ends in a confession of failure on the part of the much-tried medical attendant. This volume may be consulted with confidence for a sound and rational exponence of the clinical features of neurasthenia, and the section on treatment, which occupies more than half the book, will be found especially valuable. The translation is well done, and preserves the lucidity of the original work.

A Manual of Natural Therapy. By THOMAS D. LUKE, M.D., Pp. xiv, 302. Bristol: John Wright & Sons Ltd. 1908.

To very many, if not to a majority, of medical men a hydro is an establishment consisting of an hotel where there are provided Turkish baths, sitz baths, air douches, Fango treatment, hydro-electric baths, Dowsing baths and the like, and so on, the names

in some cases being the extent of the medical man's knowledge of them.

The aim of this book is to present an outline of the methods of hydropathic, electrical and electro-thermal treatment, the physiological actions and the indications and contra-indications in disease. Such a volume has long been wanted to fill a gap on our reference bookshelves. It will save the practitioner some wriggling when he is asked by patients the relative values of, say, the sinusoidal and the high-frequency currents, or of the Dowsing and Fango treatments. The medical man has had little opportunity of personally observing these methods, and the consequent haziness about them has done much to encourage quackery.

The Kneipp Kur is here dismissed in four or five lines as a form of quackery, and since the author has held office in a hydro which bears the name of Smedley, he will not object to its being pointed out that there are several doctors (Baumgarten, Schultz and others) in Wörishofen who control baths and regulate the Kur on scientific and strictly professional lines; indeed, the Kneipp method of regulating the various cold douches according to the individual is more scientific than the methods given in Dr. Luke's book.

The title of this book, *Manual of Natural Therapy*, is not justified by the sub-title, "Hydrotherapy, Massage, Electricity, Diet." Under such title Climate and Health Resorts, Swedish and other Curative Exercises, and Lavage, amongst others, should have been included. It would be better to leave out the subjects of diet and mineral waters (the latter being represented in this book by the foreign varieties only), and further enlarge the sections on massage, hydropathic and electrical treatments, upon which Dr. Luke shows himself well qualified to speak with authority, and the usefulness of the book would be much increased.

The free use of excellent illustrations adds greatly to the value of the book, and the form in which it has been published is fully up to the high standard to which Messrs. John Wright have accustomed us.

The Mediæval Hospitals of England. By ROTHA MARY CLAY. Pp. xxii, 357. London: Methuen & Co. 1909.

In his preface to Miss Clay's book the Bishop of Bristol concludes with the words, "As a book of reference for readers and writers this treatise ought to hold a distinguished place." An expression of opinion with which we cordially agree; for, to begin at the end, the index is reliable and the tabulated list of mediæval hospitals arranged by counties as an appendix is concise and admirable, containing as it does many references to authoritative records. Bibliographical references are ungrudgingly

given where they are wanted, *i.e.* at the foot of the page, in addition to a summary of leading authorities at the end of the volume. Numerous illustrations lend interest to the letterpress, though we could wish that the sources of the illustrations were in some cases made known. The author has succeeded in arranging her necessarily somewhat disjointed information in coherent order. It was no easy task to bring under a single cover the numerous worthy foundations which have held or hold the name of "hospital." The name includes every provision which mediæval generosity made for housing the aged, the infirm, the fatherless, the needy, the wayfarer, and the sick. But the task has been attempted, and the result is a book not to be set apart as a work of reference for antiquarians only, but to be read through by anyone pretending to an interest in England's past. One criticism we may venture on. Miss Clay writes of the Middle Ages as though æons separated the sixteenth from the twentieth century, yet many of the foundations she describes show marvellous little change. To those who in the twentieth century have dwelt in the foundations of the twelfth, Time's footsteps mark a shorter stride.

Diseases of the Stomach. By S. H. HABERSHON, M.A., M.D. Pp. xii, 565. London: Cassell & Company, Limited. 1909.

This book will be found a very useful and trustworthy guide to diseases of the stomach, and we can recommend it to our readers. We think that the author has been successful in his intention of supplying a concise and intelligible description of these diseases. The book is evidently the product of long-continued work and thought, and therefore is free from the marks of hasty writing which disfigure many modern medical treatises. On page 55 the introduction of small calories is confusing to the reader. There is an excellent account of the anatomy and physiology of the stomach, and the two chapters on diet in health and disease will be found very useful. The author has devoted two chapters to the general symptoms of stomach diseases and their mode of production, which make for clearness, although they involve some little repetition when he comes to deal with special diseases. The account of modern methods of investigation and of the ways in which they should be carried out is well written; the directions are clear and can be easily followed. On matters of treatment the author's advice generally is sound and well considered, but in the treatment of gastric ulcer we cannot agree with his recommendation of rectal feeding for two weeks after severe hemorrhage. This starvation plan has been superseded by better methods. The section on gastric cancer is especially valuable. We would suggest that

in future editions, which we hope will be called for, the subject of subdiaphragmatic abscess should be dealt with at greater length. There are numerous illustrations and many coloured plates; those illustrating the anatomical relations of the stomach and cancer of the organ call for special commendation. The book is of a convenient size and form and the print clear.

Lectures on Hysteria and allied Vaso-Motor Conditions. By T. D. SAVILL, M.D. Pp. xiii, 262. London: Hy. J. Glaisher. 1909.

Whilst reviewing this book the premature death of the author was announced, and we therefore take this opportunity of offering our sincere condolences to the partner of his labours and collaborator in this work, Dr. Agnes Savill, in her sad bereavement. In this case it is not necessary to recall the aphorism " de mortuis " in expressing appreciation of the author's observations, for their intrinsic worth is their very sufficient commendation. The book consists of lectures published at various intervals from 1896 onwards, and herein gathered into a complete presentation of the author's views on hysteria. As is inevitable in lecture-form, there are repetitions, but the gain in vividness of presentment atones for occasional redundance. Throughout the work presents evidence of close thought upon the difficult problems of hysteria and of a sufficient clinical experience. As a matter of fact, its clinical basis rests upon 500 carefully-studied cases. Whilst the theories of other observers are fairly and lucidly represented, the main thesis of the book is the author's belief that vaso-motor disturbances play the chief part in the direct causation of hysterical disturbances, and that the chief defect is in the sympathetic nervous system. He certainly brings forward much evidence in support of his view, and the sections which deal with the vaso-motor cutaneous manifestations in hysteria are much to the point, and show his gift for original clinical observation. For these alone the book deserves study. Perhaps he pushes this theory of the origin of hysteria sometimes further than we can go with him, but he is at the same time careful to point out that no one explanation is sufficient for the protean phenomena of the disease.

Like other authors, he has to concede the existence of an hysterical predisposition on which as a basis the determining causes work. Is not this concession fatal to any knowledge of the true nature of hysteria? It is just this hysterical disposition that we either require to know the exact nature of, or, on the other hand, to be able to finally consign to the limbo of dead theories. After all, the impression that remains after the perusal of an able work like this is, that the true nature of hysteria has even now eluded all the theories that profess to account for it.

We conclude by recommending the work as a very interesting and lucid account of the disease, especially excellent upon the clinical side, marked here by much originality of observation, sound in the advice given as to treatment, and a worthy memorial of an accomplished physician.

Medical Ethics. By ROBERT SAUNDBY, M.D. Second Edition. Pp. 139. London: Charles Griffin & Co. 1907.—The recently-qualified medical man is liable to make grave ethical mistakes at the beginning of his career, either through ignorance or through having given insufficient consideration to apparently small matters during his early struggle to build up a practice. His friendly relations with his colleagues and his own peace of mind may be sadly disturbed through these mistakes, and it may take him many years to live down the results of these early slips. Professor Saundby gives annually a course of lectures on medical ethics in the Birmingham University, an example which might profitably be followed by all Universities. At the present time the public are more than inclined to scoff at medical ethics, which they term professional etiquette, and appear to be quite ignorant of the fact that they have more to gain than the medical profession has by the strict observance of professional etiquette. Senior medical students and all qualified medical men, but especially those recently qualified, should possess and read carefully this small book by Professor Saundby. The subject-matter of the book is arranged in alphabetical order, and there is a full index, so that there is no difficulty in looking up a required point. Obviously the range covered must be wide, and some subjects obtain too little attention: thus we should have liked to have seen more on the difficult position of the *locum tenens;* but for its size this book is admirable, and covers the great majority of difficulties that are likely to arise. Moreover, it is very interesting reading. We read it with some of that feeling of satisfaction with which we listen to a sermon directed against the sins of our friends, and sincerely hoping that they will take it to heart and profit by it.

A Short Practice of Aural Surgery. By J. ARNOLD JONES, M.B., B.Ch. Pp. viii, 264. London: John Lane. 1908. —The author has succeeded well in his attempt to give in this book a brief and concise account of the principles and practice of modern aural surgery. The text is not distinguished by any strikingly new departures either in arrangement, style or matter; but it is very readable. The paragraphs upon treatment are good and practical, especially those upon the after-treatment of operation cases, and they will be well appreciated by those readers who need guidance in such matters. A curious feature is an appendix giving German

medical terms, used in relation to aural surgery, for the use of those who visit German clinics. The ordinary student or practitioner who masters the contents of this volume and takes a course of practical work in an English aural clinic will have little need to visit German clinics.

Fourth Annual Report of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis. Edited by JOSEPH WALSH, A.M., M.D. Philadelphia. 1908.—The Annual Report affords ample testimony to the excellent and scientific work that is being carried out at the Institute, and the volume teems with valuable information on the many aspects of the problems yet to be solved in connection with tuberculosis. We are told that one of the functions of the Phipps Institute is to gather clinical and sociological data for scientific deductions, and the Institute has records, very carefully and accurately compiled, of nearly 5,000 cases, though still more interesting are the records of researches undertaken by members of the staff, for which they deserve to be congratulated.

Dictionary of Ophthalmic Terms, with Supplement. By EDWARD MAGENNIS, M.D., D.Ph. Bristol: John Wright & Sons, Ltd. (1909).—A booklet of sixty-seven pages, in which will be found some ophthalmic terms which are not in the ordinary medical dictionary. From it we learn that "light is one of the great fundamental powers of nature, by the action of which objects are made visible." We observe also that the term Lithiasis implies "callosity within the eyelid." The supplement contains many points worth remembering, and formulæ for the common diseases of the eye. The reader will find here a prescription for "black eye!"

A System of Clinical Medicine. By THOMAS DIXON SAVILL, M.D. Lond. Second Edition. Pp. xxvii, 963. London: Edward Arnold. 1909.—This new edition has been revised by the author, with the assistance of Dr. Fredk. S. Langmead and Dr. Agnes F. Savill. The press notices of the first edition welcomed the book so warmly that a second soon became necessary, and it has now been out of print for two years. It deals with the diagnosis, prognosis and treatment of disease for the purpose of utility to the student and the general practitioner, by approaching the subject from the point of view of symptoms and physical signs. This edition appears as one volume instead of two, but the amount of material remains approximately as before. Of the special features of the work we may mention the first part of each chapter dealing with symptoms and their causes. Great labour has been expended thereon, but it could not fail to be exceedingly profitable to the writer. Part B treats of the physical signs of disease in the special regions, and the various methods used to elicit them. Part C constitutes the

major portion of each chapter, and contains a clinical classification of the various maladies affecting the particular region, followed by a series of sections dealing with the several diseases arranged according to their clinical relationships. The author remarks that "the advantages of passing in rapid review all the possible diseases which may give rise to a patient's leading symptoms are very obvious to those actively engaged in clinical work." The compilation of a work such as this must have been a gigantic task to the author, whose readers can now enjoy at comparative ease the fruit of his labour, and cannot fail to profit thereby.

Gout. By Prof. Dr. H. STRAUSS. Pp. 70. Bristol: John Wright & Sons, Limited. 1909.—This essay forms Part VIII of a series of clinical treatises on the pathology and therapy of disorders of metabolism and nutrition by Prof. Dr. Carl von Noorden, edited by Boardman Reed, M.D., of Philadelphia. Dr. Strauss has endeavoured to give, from the practitioner's standpoint, a concise picture of the modern conceptions of the nature and treatment of gout. It is by no means an easy task to enucleate the kernel from the shell in dealing with the voluminous literature of gout and uric acid, for uric acid appears in this monograph to be the essential factor of gout, and we are delighted to see the thread test of Sir Alfred Garrod again revived and occupying the diagnostic position which it held some forty years ago. The subject of uricacidæmia is briefly discussed, and its association with chronic interstitial nephritis is emphasised. "For the modern clinician, nephritis should be diagnosed before there is demonstrable albuminuria" (page 29).

The Operative Treatment of Chronic Constipation. By ARBUTHNOT LANE, M.S., F.R.C.S. Pp. 70. London: James Nisbet & Co. Limited. 1909.—In the latest edition of his book Mr. Lane adds very little that is new. He does not attempt seriously to deal with the objections which have been urged against his ideas of pathology, beyond a brief reference to a part of Mr. Hey Groves's recent work. That there is often found the co-existence of three classes of phenomena, viz. (1) chronic constipation, (2) abnormalities of the intestine both in position and peritoneal fixation, (3) various nervous and toxic phenomena, no one has ever denied. But which of these is the primary factor, and whether the others are caused by it, is open to much difference of opinion. Mr. Lane's pamphlet is scarcely more than a rather unconvincing formulation of an unproved theory, and after all these years of practical application and operations we have a right to expect the description of actual clinical cases and results. But this right is so far denied to us. In lists of cases published by Mr. Lane elsewhere we are struck by the facts (1) that a large proportion of his cases are those of chronic gastric ulcer and local peritonitis; (2) that many of these have

given a very poor result after ileo-sigmoidostomy, and have recovered well after the stomach or appendix lesion have been directly treated; (3) there are no details given which enable any opinion to be formed as to the after-effect of ileo-sigmoidostomy or excision of the colon. This reticence over clinical details will operate even more strongly than the doubtfulness of his pathological theories in making the profession accept Mr. Lane's conclusions with great hesitation, if not actual scepticism.

Manual of Diseases of the Ear. By THOMAS BARR, M.D., and J. STODDART BARR, M.B., C.M. Fourth edition. Pp. xxvii, 477. Glasgow: James Maclehose & Sons. 1909.—We welcome this new edition of one of the most deservedly popular treatises on diseases of the ear in the English language, for the authors have succeeded admirably in their efforts to bring the present work up to date, and to include in it the advances which have been made since the third edition was published. The two chapters on the nose and throat, and especially that on the nose in its relation to affections of the ear, are of much value, and the subject is treated with sufficient fulness and detail. From cover to cover the volume is a masterly and well-balanced treatise, which does credit to the reputation of the authors, and, we may add, to the printer and publisher.

Golden Rules of Anæsthesia. By R. PROBYN-WILLIAMS, M.D. Third Edition. Bristol: J. Wright & Sons, Ltd.—The revision of this edition has not led to any very noticeable changes in its contents. We are sorry that room was not found for a short description of the open ether method. Certain drawbacks are inseparable from such concentrated forms of writing as is represented by this little book, *e.g.* on page 48 in discussing the care of the patient after ether anæsthesia the author gives the impression that the one remedy by which to treat shock is the administration of strychnine—something should surely have been said of saline, etc. On page 49 we notice a repetition of a mistake which occurred in the last issue. Ethyl-chloride before ether is recommended in doses of "three or four minims"—rather a difficult quantity to mete out.

The unknown Life and Works of Dr. Francis Joseph Gall. By BERNARD HOLLANDER, M.D. Pp. 31. Published for the Gall Society. London: Siegle, Hill & Co. 1909.—This pamphlet is a reprint of an address delivered before the Gall Society at its inauguration in May, 1909, and is a eulogy of "the discoverer of the anatomy and physiology of the brain." This description of Gall presumes, we venture to think, too far upon our suggested ignorance of his writings. As Dr. Hollander presents the case, it appears that Gall did in fact anticipate many of the modern discoveries, but in his own writings the proof is not by any means

so clear that Gall formed any conception of cerebral localisation as now accepted. Nor did he stand alone in looking for a physiological basis for psychic activities even in his own day. There is more danger now of reviving his attractive errors than of reclaiming from his almost forgotten writings the hidden rays of illuminating truth. His fantastic materialisation of the abstract virtues and vices will meet with more ready acceptance at the hands of the credulous than will his occasionally accurate observations at the hands of the scientific. Moreover, there is some ground for thinking that the interest his writings arouse may be attributable to his tendency to deal with the psychopathia sexualis, which certain morbid minds find diverting reading. To our thinking his greatest claim to be remembered lies in the appreciation he won from the Combes, George and Andrew, who diligently adopted what was best in his teachings and had little interest in their charlatanry. Gall was not boycotted on this account, but for fear lest his impious tenets should oust " original sin " from the high place assigned to it by theologians, and bring it under the dispassionate analysis of scientists. Even Prichard was at fault in his forecast of the validity of Gall's view that a moral deterioration might be the result of a cranial injury, for he criticises the account of such a case, saying, " If stories of this kind gain credit, the College of Surgeons may expect one day to march in triumph and take possession of the vacant seats of the criminal judges ; and we shall proceed forthwith to apply the trepan where now the halter and gibbet are thought most applicable." Andrew Combe, " preferring," according to Dr. John Brown, " observation to speculation," trenchantly retorts, " We confess that there are many instances in which we should not regret to see a well-informed and philosophical physician or physiologist taking his seat at the Bench along with the judges and benefiting them by his advice. The unfortunate, but innocent, insane would then have a still better chance of escaping the cruel fate which even in the present enlightened age not infrequently overtakes them ; and our best feelings would be still more rarely outraged by seeing the victim of disease loaded with the infamy of guilt." To his contemporaries Gall's unpardonable offence lay in anticipating Haeckel's dictum " that every psychic action requires the complete and normal condition of the correlative brain structures for its full and normal exercise." To us he appears rather as an example of that type of frail humanity which condones its own incorrigible moral delinquencies by inveighing against the blind superstitions of the old religion. He lived an unlovely life, which the decadence of contemporary modernity may attempt to idealise in vain.

Studies in Tuberculosis. By HENRY CLARKE, M.A., M.D. Pp. 59. Liverpool: The University Press. 1909.—Dr. Clarke gives his experience of tuberculosis in three sections, according

to his point of view as a physician, a city councillor, and a pathologist. The book is an amplification of a thesis for the Cambridge M.D. The most interesting portion of the book is where the author gives his experience in tuberculin treatment. He finds that the continental method, transgressing Wright's rules with regard to inoculation during negative phases, does not cause the ill results the opsonists threaten us with. The patient's temperature is the guide in the continental method, and is a sufficient guide with the dosage more generally used in this country. As a councillor he advocates segregation of the tuberculous and the destruction of infected cows. He rightly points out that much may be done with existing buildings in the formation of sanatoria, and additional buildings put up at a cost of £100, or at most £200, per bed, with little loss in efficiency compared with those costing anything from £500 to £1,000 per bed. The book will serve as a readable and simple introduction to the subjects discussed. The author pays a well-deserved tribute to Sir William P. Hartley, who has done so much to help Liverpool to deal with consumption.

Open Air at Home : Practical Experience of the Continuation of Sanatorium Treatment. By STANLEY H. BATES. Bristol : John Wright & Sons Ltd. 1910.—This booklet of 62 pages, with a prefatory note by Sir James Crichton-Browne, M.D., F.R.S., is intended for patients who have passed through the sanatorium, to whom it should prove exceedingly useful. We hold that no patient can carry out sanatorium life except in the sanatorium, but post-sanatorium treatment is most useful and necessary. The book describes the evolution of the garden shelter, and its uses. It cannot fail to be a good guide, not only to the patient on leaving the sanatorium, but to the patient's family and friends, to whom its injunctions should be a useful protective.

Hypnotism and Treatment by Suggestion. By J. MILNE BRAMWELL, M.B., C.M. Pp. xii, 216. London : Cassell & Co. 1909.—The numerous and conflicting theoretical considerations on hypnotism are dealt with in detail in the author's larger volume ; the present work is intended to give such practical information as may be valuable to those who wish to employ "suggestion" in their practice. The author is an enthusiast in his work, and he holds that suggestion ought to be a subject of keen interest not only to the physiologist and the psychologist, but also to the medical practitioner. Braid employed the term hypnotism because he believed the condition to be one of artificial sleep, but the author has long recognised that the condition differs widely from natural sleep, and that every stage of the so-called hypnotic condition is a conscious one, and the patient is often obviously wide awake. An enormous amount of clinical detail will be found in the book, and is sufficiently convincing

as to lead any unbiased observer to the conclusion that "medical men can neither afford to ignore a legitimate and valuable form of treatment, nor to allow it to fall into the hands of unscrupulous and dangerous quacks."

Experimental Psychology and Hypnotism. By GEORGE H. SAVAGE, M.D. Pp. 44. London: Oxford University Press. 1909.—This was the principal topic of Dr. Savage's Harveian Oration, delivered before the Royal College of Physicians of London on October 18th, 1909. The author submits "that the investigation of hypnotism is a thing that should not be ignored in this country. When other nations are carefully investigating the physiology and the therapeutic value of this potent influence, it is certainly rather a pity that England should be in the background." He considers that whilst the supposed dangers of experimental hypnotic methods have been exaggerated, experience has shown him that hypnotism can only have a limited use, and that its use is not among the actively insane; but nevertheless, thoughtful men all over the world are recognising that it is a force to be considered. The author has obtained some encouraging results from the method of post-hypnotic suggestion.

Rotter's Typische Operationen. 8 Auflage. Von Dr. ALFRED SCHÖNWERTH. Pp. xii, 371. München: J. F. Lehmann. 1909.—The fact that this little book has reached its eighth edition probably indicates that it has attained some popularity among German medical students. It is somewhat a relief to find that our strenuous Teutonic cousins do allow themselves sometimes to write and to read a small summarised account of a scientific subject. Operative surgery is treated in a manner suitable for students and nurses, and great judgment has been exercised in selecting the most important principles, and in excluding that bewildering multiplication of methods which is so confusing to a learner. In very few respects does this German account differ from similar English books, but we note that Pirogoff's amputation of the foot is regarded as the typical operation, and Syme's as the exceptional. Nephropexy is dismissed in a few lines with the statement that this operation is now seldom performed! The illustrations are comparatively few in number, but are of large size and very clear in detail. A very useful set of pictures, illustrative of instruments in common use, ends the volume. The highest praise that can be given to the book is the statement that all the important procedures of operative surgery are clearly described, together with their chief indications, within the small compass of 362 pages. The book may be highly commended to the English reader who wishes to learn German for medical purposes. The sentences are short and much less involved than is the case with most German treatises.

Soured Milk and Pure Cultures of Lactic Acid Bacilli in the Treatment of Disease. By GEORGE HERSCHELL, M.D. Second Edition. Pp. vii, 72. London: Henry J. Glaisher. 1909.—The soured milk method has become so popularised that an *exposé* of its uses and limitations in disease is most desirable. The first edition having been rapidly exhausted a second revised and enlarged edition has become necessary. Of the preparations of lactic acid bacilli which now flood the market those at the disposal of the physician are practically three: Soured milk, liquid cultures of the Bulgarian bacillus, and dried cultures in the form of powder or tablets. The author points out that it is always best to make use of a pure laboratory culture, and that it takes about a week for the lactic germs to gain a footing, so that time must be given to allow the bacillus to do its work in the intestine.

Some Common Remedies, and their Use in Practice. By EUSTACE SMITH, M.D. Pp. vii, 112. London: H. K. Lewis. 1910.—This book consists of reprints of papers contributed to *The British Medical Journal* during the years 1908 and 1909, and is intended to show that the modern methods of treatment, founded on our knowledge of infection and the influence of micro-organisms, should not be allowed to supplant the older methods unduly. "Drugs have still their uses, and have not yet been superseded by antitoxic serums and vaccines." That is the text of the book, and the younger generation of practitioners will find that the making of a diagnosis is only the first step in a treatment, in which ignorance of general therapeutics is likely to be a source of continual embarrassment.

House-drainage, Sewerage, and Sewage Disposal in Relation to Health. By LOUIS C. PARKES, M.D., D.P.H. Pp. viii, 142. London: H. K. Lewis. 1909.—These lectures, delivered at the University of London under the Trust created by the will of the late Sir Edwin Chadwick, K.C.B., are perhaps better described by the official title: "The Medical Aspects of Recent Advances in Hygiene as connected with Sewering." They are well considered and interesting, and are fully up to date.

Health, a Royal Road to it. A book for you. Read it: Try it. By J. P. SANDLANDS, M.A., T.C.D. London: The Walter Scott Publishing Company Ltd. 1909.—Vicarious suffering is a great moral law. There must always be someone who is willing to suffer for others, or who is made to suffer for them. This is illustrated in the reviewing of this book. To save anyone else the pain of reading it, I have undertaken to review it, and I think it ought to atone for nearly all my sins. I have actually read it through, and I really think no one else need do so unless he or she is anxious to see what ineffable nonsense can be written by one whose "faith in himself" (as the *Lancet* justly remarks) "is colossal, and whose knowledge of medicine is *nil*."

Editorial Notes.

The University of Bristol.

Now that the University is a going concern, those prophets who foretold failure of the scheme may be reminded of the saying that "the impossible has become a fact by going through the hollow mockery of taking place." Not that those who worked for the scheme ever admitted that it was impossible, or that its "taking place" has been a hollow mockery. In a recent speech Sir Isambard Owen alluded to the prevailing misconception that when once the Charter was granted the University "had nothing to do but get up steam and go ahead." An immense amount of work has fallen on the members of all departments. For many months the Ordinances and Regulations have been under consideration, and very numerous meetings of the Boards of the various Faculties have been held. The Faculty of Medicine, in particular, has been very busy in constructing a curriculum of study for the approval of the Senate and Council. The course of study adopted by each of the newer Universities has been considered. The materials for the curriculum, as was the case in the celebrated "Deacon's Masterpiece," have been selected from those which experience seemed to show were best fitted for the requirements of the case. The aim has been to omit nothing essential, yet not to put an impossible burden on the student. It cannot, however, be expected or even hoped that, like the "wonderful one-hoss shay," the medical curriculum will survive unchanged until its hundredth anniversary.

Great difficulty has been experienced in selecting and adapting so as to prevent the curriculum becoming too cumbersome a machine. At first glance it might appear that the curriculum was intended to eliminate the weak by the process of survival

of the fittest, whether teacher or student, and it has even grimly been compared to a Juggernaut Car, with twin deity of medicine and surgery, driven by pathology. On closer examination, however, it will be found that many of the prescribed courses are short, and can be attended concurrently. It will probably be found that the total amount of attendance required on lectures, laboratory and clinical work is about the same as what is insisted on at all the newer Universities.

Amongst the many obvious advantages of a thorough and comprehensive course, it must not be forgotten that it renders numerous examinations for the degree less imperative; but examination for a degree in medicine is obviously far more necessary than in science, and it must not be forgotten that of the five and a half years' study required the student need only spend three in Bristol.

In order to introduce the stimulus of competition, and to afford recognition of specially good work, a scheme is under consideration for granting honours or distinction in the examinations for the M.B. and B.Ch. Further, an arrangement has been made to allow old students of the University College, Bristol, to enter for degrees in medicine and surgery up to May, 1912. It is possible that an examination for old students may be held towards the end of the ensuing summer session.

The arrangements for clinical teaching at the Royal Infirmary and General Hospital have been re-organised, and every day of the week (except Saturdays) one or more physicians and surgeons have undertaken to devote their whole time to definite clinical instruction at the bedside. These "teaching ward rounds" will be continued throughout the year. In addition to this, Clinical Demonstrations in the special and out-patient departments are arranged daily (excepting Saturdays) during term time. It is hoped that these courses of demonstrations may be so co-ordinated that the whole domain of clinical medicine and surgery will be covered.

Another new departure is the appointment of Demonstrators of Anatomy and Physiology to give their whole time to teaching those two subjects.

Commemoration Service.

On December 7th a service in commemoration of the founding of the University was held in the Cathedral. The Lord Mayor and Corporation attended the service, and a large number of representatives of the Council, Senate and teaching staff of the University attended. The first University sermon, which we hope will become an annual event, was preached by the Rev. A. A. David, the newly-appointed Head Master of Rugby.

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The University Colston Society.

The eleventh annual dinner of the University Colston Society was held on February 17th, when Sir William Ramsay, who was the guest of the evening, related various interesting experiences which befell him when he came to University College, Bristol, thirty years ago. He spoke very emphatically on the necessity of adequate payment of professors, lecturers and demonstrators, so that they may be enabled to do the best work they are capable of, so that the pressure of monetary trouble may not interfere with their productiveness. Many of the American colleges have received large gifts. The temptation has too often been yielded to expend these gifts in bricks and mortar, and in increasing the number of the staff, without increasing their remuneration. He also supported the growing opinion that scholarships are mostly a waste of money. They should only be awarded to those whose financial circumstances prevent them obtaining education. Granted as loans, on evidence of power of application and of good conduct, they would in most cases be more profitably bestowed.

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Presentation to Professor Lloyd Morgan.

On March 2nd many of the friends and admirers of Professor Lloyd Morgan met together to present him with a gift of silver plate and bookcase, together with a large number of scientific works bearing on subjects in which Professor Lloyd Morgan has taken such a deep

interest, and also to present Mrs. Lloyd Morgan with a gold bracelet. It is singularly fitting that the recognition of so eminent a leader of thought in the department of science to which Professor Lloyd Morgan has more particularly devoted himself should be made thus early in the life history of Bristol University, for inasmuch as the Professor had for many years, as Principal of University College, led and guided that Institution towards its culmination in the Bristol University, it not rarely happens that in his native town or in the city of his adoption even a very distinguished man of letters or science, who is fittingly recognised in literary and scientific circles throughout the world, is not adequately appreciated by those amongst whom he dwells. Indeed, it is probable that the report of the proceedings at the University of Bristol may have conveyed for the first time to many citizens of Bristol the information that in the well-known figure of Professor Lloyd Morgan we had one amongst us whose name is honoured among scientists in all quarters of the globe. The very high estimation in which Professor Lloyd Morgan is held by those who have been associated with University College was well expressed in the opening remarks by the Right Hon. Lewis Fry, who presided over the meeting. He pointed out that amongst those two hundred and thirty friends and admirers who had taken part in the scheme were included many members of the Council and Staff of University College, and a large number of past and present students, and of other friends in Bristol and various parts of the country. By their presentation, it was their desire to mark their great sense of appreciation of Professor Lloyd Morgan's services, not alone in leading and developing Bristol University College, but also his services in the cause of higher education, and his marked influence in raising and maintaining the standard of intellectual and social life in Bristol.

Professor Lloyd Morgan expressed his gratification at the presentation which had been made to his wife, and his sincere thanks for the beautiful gifts to himself, and went on to say that he felt that he had been listening to his own obituary, for as Principal of University College he was dead, but he hoped he should have some few more years of life to serve the University.

He told his assembled friends that he was brought up at a Grammar School at which Classics took a very prominent place, and then proceeded to a College of Chemistry and School of Mines, where he studied under Professor Tyndall and others and was trained to be a Mining Engineer. He finished his training and went to America, where in the course of wide travel in North and South America the one thing specially impressed on his mind was the large amount of ignorance that still remained with him. He therefore took another two years of study under Professor Huxley, and to that scientist he owed a great debt of gratitude. He later received an appointment at the Cape, whence he came to Bristol. When Sir William Ramsay left he accepted the office of Principal with considerable diffidence, and though he undertook it with the idea of filling it temporarily, the period had lengthened out to twenty-two years.

* * * * *

The Medical Profession and the Reports of the Poor Law Commissioners.

SURROUNDED as we are with questions of the deepest scientific interest, and realising the truth of the words of the father of medicine, that life is short but art is long, and opportunity fleeting and judgment difficult, it is hardly to be wondered if we sometimes neglect matters which are vitally important to our well-being, and which profoundly concern our status as medical practitioners.

With the object of arousing our attention to the recommendations embodied in the Reports of the Poor Law Commission, and with the hope of stimulating our enquiries into the effects which are likely to follow if such proposals become law, Dr. J. Smith Whitaker gave an interesting and suggestive address on the subject on January 13th in the Medical Library.

> "There is a tide in the affairs of men
> Which, taken at the flood, leads on to fortune;
> Omitted, all the voyage of their life
> Is bound in shallows and in miseries."

However sceptical we, as a profession, may be as to the truth of the first part of this statement, there is little doubt in the minds

of those who have carefully studied the Reports that if some, at least, of the proposals are carried into effect the voyage of the life of many of us will certainly, in the end, be bound in shallows and in miseries, one seeing danger looming in one proposal, and another in another, and each estimating the extent of the trouble according to his individual experience and idiosyncrasy. Obviously, then, it is a duty which we owe to ourselves to pay some serious and impartial attention to matters which so intimately affect us, in order that we may have confidence in our opinions, and so feel able to offer to our legislators advice which may have some influence in the maturing of their plans.

It is conceded on all hands that some reforms are necessary, and it is generally agreed that when the political horizon is clearer, and the "somewhat varied and exciting parliamentary possibilities of the present situation" have blown over, the matter will be seriously taken up by one Government or another, and alterations more or less drastic made in our laws. Both Majority and Minority Reports recommend far-reaching changes, and to both serious objections may be raised.

While ready to concede to all the Commissioners the highest motives and the sincere desire to act for the best interests of the community, we cannot help feeling that our profession was inadequately represented on the Commission, and that the opinions of those of us who have had life-long experiences in the working of Poor Law Medical Relief and Contract Practice were not sufficiently consulted.

Broadly speaking, we may say that the chief characteristic of the Majority Report is the attempt to develop individual responsibility by the encouragement of Provident Dispensaries, while the Minority aims more especially at stimulating the consciousness of social obligations. Both aims are excellent in themselves, but, like all virtues, liable to abuse if too self-assertive and wanting in the due consideration of the claims of others. The members of our profession are anxious to look at the question from as many points of view as possible, and willing to subordinate their own interests to the good of the State, but at

the same time they are not anxious to be over exploited or wholly immolated on the public altars. Our lives are even now not passed altogether on beds of roses. At times, in weak moments, the spirit of Ulysses fails us, and, like the Lotus Eaters, we feel that

"We have had enough of action, and of motion we,
Roll'd to starboard, roll'd to larboard, when the surge was seething free."

If the condition of our lives becomes still harder, if our sons realise that after a preliminary training of ever-increasing pressure the exigencies of practice demand more and more onerous and exacting duties, they will seek other fields for their energies, and refuse to enter our profession. The progress of the science and art of medicine and surgery will be hampered, and the chief aim of the Commissioners, the diminution of poverty—which, by their own showing, is largely due to disease and ill-health—will be defeated.

According to the Majority Report, the Poor Law Medical Officer is in time to be abolished, and the poor allowed to choose their own doctor, or one of several attached to a dispensary. In a paper recently read before the Cambridge and Hunts Branch of the British Medical Association, Dr. Joseph Griffiths says, "It is time for us to wake up, else the State will make us contribute not only our share of the rates and taxes, but also a good portion of our knowledge and skill towards the treatment of the sick poor. We shall have thrown upon us not only the burden of the citizen, but also an additional burden in the shape of charity—indeed, we shall be slaves to the community, and shall be regarded as men whose duty it is to pay all rates and taxes, and besides attend the sick poor on a provident basis. . . . This is nothing less than an imposition, and, once put on, will hang round our necks for many generations."

Equally severe strictures may be laid on the Minority Report. In the opinion of many the relief given under this scheme must in time become gratuitous in the vast majority of cases, and as it is to be given to the individual not only during a condition of destitution, but before destitution arises and subsequently, it will not only increase the number of those legally entitled to

relief, but will greatly lengthen the period of relief given. The present expenditure upon the Poor Law in England alone is £15,000,000 a year. Under this scheme it would be enormously increased, and the excessive taxation required would tend to intensify the miseries of unemployment. Besides, such a huge eleemosynary system could not be established over the country without impairing the instincts of thrift and independence. It would have the effect of splitting up the family, and impairing those obligations which are already being weakened, but which ought always to be encouraged and cherished as the very foundation and anchor of a happy and well-ordered state. And it would result in such an encroachment on the liberties of the individual which would never be tolerated, and in a system of surveillance and inquisition from the cradle to the grave.

This naturally leads us to the thought whether modifications and improvements of the present system may not be preferable to revolutionary methods. We must not shut our eyes to the fact that the Poor Law has shown constant advances and improvements, especially since 1834. The infirmary system has been introduced, and, with regard to classification, although there have no doubt been many shortcomings, much has been done to take away the stigma. Thus, as Dr. Downes, one of the Commissioners, shows, of the indoor poor, exclusive of lunatics in asylums and of casuals, more than 38 per cent. were in 1908 already provided for in specialised institutions quite apart from the ordinary workhouse, and the proportion in London was more than 50 per cent. As he says, "There may, indeed, be a danger of classification being carried too far, to the verge of hardship or even tyranny. The breaking up of families, the removal of old folk from their associates and friends, may outweigh many administrative advantages." Again, to take another example, of all children in receipt of relief, not 7 per cent. are housed in a workhouse proper, and there is hardly a Union which does not send this remnant out to the public elementary school to mingle with their fellows. In 1838 nearly half of the entire number of the inmates of the workhouses were children under sixteen years of age. Now only one-tenth of the inmates of workhouses are

children under sixteen, and of these one-half are in the sick wards or separate infirmaries, and a large proportion of the remainder are babies under three years of age. Again, within the same period the number of paid nurses of the sick indoor poor has risen from less than 200 to more than 6,000, many of whom are highly trained in their profession.

The beds in the separate infirmaries of London alone now nearly equal, if they do not outnumber, those of all the general hospitals in the whole country. It is a significant proof of the public appreciation of these infirmaries that the proportion of the total deaths in London which occur in the Poor Law Institutions has risen from 12.3 per cent. in 1890 to 20.5 per cent. in 1907. "We should be careful," says Dr. Downes, "in considering statements of cases in which the Poor Law is asserted to be deterrent, not to lose sight of these broad truths."

Revolution is more alien to the mind of our nation than reform, and although it occasionally happens that violent upheavals are the only remedies we can usefully employ, we must never forget how much we owe to those gradual changes which have made our country

> "A land of settled government,
> A land of just and old renown,
> Where Freedom slowly broadens down
> From precedent to precedent."

W. A. S.

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Winsley Sanatorium.

THE report for the year 1909, adopted by the annual meeting of subscribers and representatives of corporations and owners of beds held at the Sanatorium on February 26th, is before us. It gives a record of very good work and of increasing utility. It shows a very decided improvement in the selection of suitable cases as compared with former years, but the number of advanced cases received is still too large. Many of these can only make slight temporary improvement, and they occupy beds which should be devoted to earlier and more hopeful cases. We observe that of Class I, the good cases, 84 per cent. were discharged as fit for work, whereas of Class III

only 29 per cent. were fit for work, although even of these some 77 per cent. had much improved during their few months of sanatorium life. The Medical Board is of opinion that it would be most desirable that all cases should be seen by the Medical Officer to the Institution before admission, but this is not possible in the majority of patients scattered throughout three large counties. In the case of patients who can go to the Sanatorium for examination the Medical Officer to the Institution is at all times willing to fill in the second certificate on behalf of the Board of which he is a member.

Notes on Preparations for the Sick.

"Tabloid" Thyroid Gland (Standardised).—BURROUGHS, WELLCOME & Co., London.—Represents the whole substance of carefully selected, healthy glands of the sheep, and contains the unaltered, undiminished, essential activity of the normal thyroid gland.

This tabloid is so standardised by chemical means controlled by physiological test as to ensure that the desiccated gland substance, of which each represents a definite amount, contains not less than 0.2 per cent. of iodine in organic combination.

The following strengths are available :—

gr. ½. gr. 1½. gr. 2½. gr. 5.

"Tabloid" Pituitary Gland, gr. ii.—BURROUGHS, WELLCOME & Co., London.—Extracts of the infundibular part of the gland produce a prolonged rise of blood-pressure, a slowing and strengthening of the heart beat, an increased secretion of urine, and contraction of the uterus. In acromegaly the pituitary gland is generally found diseased. The gland substance is employed in acromegaly, and has been reported to relieve the headache and the neuralgic pains in the limbs, whilst in other cases memory has improved and lethargy diminished. The benefit appears to be increased in some cases by the combined use of pituitary gland with thyroid gland.

Thymoform Tablets.—OPPENHEIMER, SON & Co., London.—These tablets form a pleasant, non-irritating method of exhibiting the powerful antiseptic, deodorant and bactericidal properties of Thymol and Formaldehyde.

They are prepared in the form of tablets, with a pleasantly flavoured basis of cane sugar, and are quite agreeable to taste. When sucked slowly they dissolve in the saliva, and thus form an effective disinfectant, which is applied to the whole oral cavity and throat, and is capable of exerting a continuous bactericidal action, which is much more effective and lasting than gargles or mouth washes. In septic conditions of the mouth, whether arising from defective teeth or disease generally, they are ideal, removing the fœtor rapidly, and leaving a pleasant, clean taste in the mouth which is appreciated by the patient.

Salen.—Society of Chemical Industry in Basle, 6 Harp Lane, London. E.C.—Salen, a mixture of the methyl and ethyl glycolic acid esters of salicylic acid, is an oily liquid readily soluble in alcohol, ether and castor oil, sparingly soluble in olive oil, more readily in a mixture of olive oil and castor oil, or of chloroform and olive oil in equal parts.

Salen is odourless, *perfectly non-irritating*, stable, and inexpensive.

Its freedom from irritating properties makes it possible to rub Salen into the skin by careful massage, to leave it in contact with the skin for some time, and to apply it continuously to the painful part.

The following modes of application are advised :—

℞ Salen. pur. 15 gms. "To be applied with a brush" (in gout).

℞ Salen. Spirit rec. āā 10 gms. ℞ Salen. 10 gms. Chloroform. Ol. Olivæ āā 5 gms.	"The painful parts to be rubbed two or three times daily with ½ to 1 teaspoonful, and then to be covered with cotton wool or flannel."

Aperitol.—The J. D. Riedel Co., 54 Cannon Street, London.—The drug so named is a mild, non-griping and harmless laxative. Chemically it is described as a valerianate of phenolphtalein.

Aperitol is a white powder, absolutely tasteless, and insoluble in water and dilute acids, but is gradually resolved into its components by weak alkalies. Hence it passes through the stomach unaltered, whilst in the intestines valerianic acid and phenolphtalein are liberated, the latter of which is almost wholly excreted in the fæces.

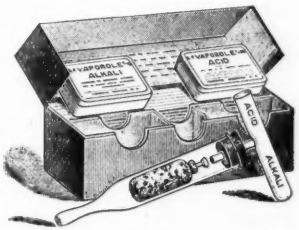
The ordinary dose is six grains, two tablets or bonbons of three grains each. This dose commonly causes only a single action of the bowels, and it does not appear to lose its efficacy after repeated administration. Its action, owing to the presence of the sedative valerian, is entirely free from pain.

"Vaporole" Ammonium Chloride Inhaler.—BURROUGHS, WELLCOME & Co., London.—The "Vaporole" Ammonium Inhaler consists of a compact apparatus which will, whenever required, deliver perfectly neutral vapour of pure and freshly-prepared Ammonium Chloride.

Showing "Vaporole" Inhaler in use.

Many advantages are possessed by the "Vaporole" Inhaler over the ordinary forms. It has no rubber connecting-tubes to deteriorate, loosen, or become clogged with crystals of Ammonium Chloride. Supplies of acid and alkali sufficient for each application are carried separately in hermetically-sealed "Vaporole" containers, and will maintain their full strength and remain instantly available for any length of time until required for use. Thus with the "Vaporole" Inhaler there are no cumbersome bottles, no stock liquids of a dangerous and volatile nature, and no glass stoppers to get detached, misplaced or lost. The compactness, simplicity and efficiency which characterise the whole apparatus ensure portability, facilitate application, and make for certainty of result.

Each "Vaporole" Inhaler, together with a supply of "Vaporole" Acid and "Vaporole" Alkali, is securely packed in a neat case.



"Vaporole" Inhaler complete with "Vaporole" Acid and Alkali. Measurements of case: 6 × 2¼ × 2 in.

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in December.

February 28th, 1910.

J. Paul Bush, C.M.G. (1) .. .. 1 volume.
A. L. Flemming (2) .. .. 3 volumes.
L. M. Griffiths (3) .. .. 6 volumes.
The Medical Officer of the London County Council (4) 1 volume.

The Council of the Royal College of Physicians of London (5) .. .. 1 volume.
R. Shingleton Smith, M.D. (6) .. .. .. 14 volumes.
The Surgeon-General of the Public Health and Marine Hospital Service (7) .. .. .. 1 volume.
The Surgeon-General, United States Army (8) .. 1 ,,
Unbound periodicals have been received from Mr. Paul Bush.

SEVENTY-FIFTH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund, or received through the *Journal*.

Albarran, J. .. .. *Médecine opératoire des Voies urinaires* 1909
Andrew, J. G. .. *Age, Incidence, Sex, and Comparative Frequency in Disease* 1909
Bates, S. H. .. .. *Open-air Treatment at Home* 1910
Bateson, W. .. .. *Mendel's Principles of Heredity* .. .. (2) 1909
Bishop, E. S. .. .. *Lectures on Surgical Nursing* 1909
Bosanquet and J. W. H. Eyre, W. C. *Serums, Vaccines and Toxines* 2nd Ed. 1909
Bramwell, J. M. .. *Hypnotism and Treatment by Suggestion* .. 1909
Catalogue (Index-) of the Library of the Surgeon-General's Office, United States Army. 2nd Series. Vol. XIV. .. .. (8) 1909
Clarke, J. J. .. .. *Congenital Dislocation of the Hip-Joint* 1910
Confessio Medici 1909
Corner, E. M. .. .. *Male Diseases in General Practice* 1910
Dubois, P. .. .. *Pathogeny of the Neurasthenic States* (Trans. by E. G. Richards) 1909
Eyre, W. C. Bosanquet and J. W. H. *Serums, Vaccines and Toxines* 2nd Ed. 1909
Ferrier, D. .. .. *On Tabes Dorsalis* .. .. (6) 1906
Groves, E. W. H. .. *A Synopsis of Surgery* .. .. 2nd Ed. 1910
Hertz, A. F. .. .. *Constipation and Allied Intestinal Disorders* 1909
Jellett, H. .. .. *A Manual of Midwifery* .. .. 2nd Ed. 1910
Kelynack, T. N. [Ed.] *Infancy* .. .. [1910]
Keogh (Sir A.), *et al.* *A Manual of Venereal Diseases* 1907
Kerr, C. B. .. .. *Infectious Diseases* 1909
Lake, R. .. .. .. *Diseases of the Ear* .. .. .. 3rd Ed. 1910
Lugaro, E. .. .. *Modern Problems in Psychiatry* (Trans. by D. Orr and R. G. Rows) 1909
Mackenzie, J. .. *Diseases of the Heart* .. .. .. 2nd Ed. 1910
Moore, N. .. .. *The Harveian Oration* .. .. (6) 1901
Muthu, C. .. .. *Pulmonary Tuberculosis* 1910
Ormerod, J. A. .. *On Heredity in Relation to Disease* .. .. (6) 1908

Payne, J. F. .. .. *Harvey and Galen* .. .. (6) 1897
Reid, G. A. .. .. *Alcoholism : A Study in Heredity* .. .. (2) 1901
Roberts, F. T. .. *The Harveian Oration*, 1905 .. .. .. (6) 1906
Robertson, W. .. *Public Health.* 5 parts .. .. [N.D.]
Russell, P. Sargent and A. E. *Emergencies of General Practice* .. 1910
Saleeby, C. W. .. *Organic Evolution* .. .. (2) [N.D.]
Salisbury, J. H. .. *The Relation of Alimentation and Disease* (6) 1888
Sargent and A. E. Russell, P. *Emergencies in General Practice* .. 1910
Savage, G. H. .. *On Experimental Psychology and Hypnotism* (6) 1909
Secret Remedies 1909
Smith, E. .. .. *Some Common Remedies* 1910
Taylor, F. .. .. *The Need of Research in Medicine* .. .. (6) 1908
Tunstall, F. J. Warwick and A. C. *First Aid to the Injured and Sick* 6th Ed. 1910
Walford, W. G. .. *Cerebral Congestion and Tight Neck Clothing* 1910
Walley, ... *Meat Inspection* 5th Edition by S. Stockman 1909
Walsh, D. .. .. *Quack Remedies* 1909
Warwick and A. C. Tunstall, F. J. *First Aid to the Injured and Sick* 6th Ed. 1910
Williams, J. .. .. *Roller Skating for Health and Pleasure* 1910
Williams, P. W. .. *Rhinology* 1910

TRANSACTIONS, REPORTS, JOURNALS, &c.

American Association of Genito-Urinary Surgeons, Transactions of the .. .. Vols. III, IV. 1908–09
American Laryngological Association, Transactions of the 1909
American Surgical Association, Transactions of the .. Vol. XXVII 1909
Archiv für Gynaekologie .. .. Bds. LXXXVII, LXXXVIII 1909
Archiv für klinische Chirurgie .. Bds. LXXXVIII, LXXXIX 1909
Army Medical Department, Report for 1908 .. (1) Vol. L 1909
Association of American Physicians, Transactions of the Vol. XXIV 1909
Beiträge zur klinischen Chirurgie .. .. Bds. LXI–LXIII 1909
Bristol Directory, Wright's 1910
British Medical Journal, The .. .. Vol. II for 1909
Catalogue of Books, The English, for 1908 1909
Clinical Journal, The .. .. Vol. XXXIV 1909
Deutsche Zeitschrift für Chirurgie .. .. .. Bds. XCVIII, C 1909
Hazell's Annual 1910
Henry Phipps Institute, Fifth Annual Report of the 1909
Hospitals—Guy's Hospital Reports .. .. Vol. LXIII 1909
Lancet, The .. .. Vol. II for 1909
London County Council, Report of the Medical Officer for 1908 (4) 1909
Medical Directory, The 1910
Parasitology .. .. Vol. I 1908
Philippine Journal of Science, The .. .. Vol. III 1908
Public Health Reports issued by the Surgeon-General, Public Health and Marine Hospital Service. (7) Vol. XXIII, Part 2 1909

Revue de Chirurgie	Tom. XXXIX	1909
Royal College of Physicians of London, List of Fellows, etc., of the	(5)	1910
Royal Society of Medicine, Proceedings of the	Vol. II	1909
Therapeutic Gazette, The	Vol. XXXII	1908
Whitaker's Almanack		1910
Year-Book of Scientific and Learned Societies		1909

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

December 8th, 1909.

Dr. JAMES SWAIN, President, in the Chair.

Dr. CAREY COOMBS and Dr. E. RUSSELL (introduced) read papers on **Quinine as an abortifacient.** They gave an account of the case of a man tried on a charge of administering a "noxious thing" to pregnant women, with intent to procure abortion. According to the police court evidence, eight women took the prisoner's pills and capsules. Samples of these were submitted for analysis to Dr. E. Russell, who stated that he had found that they contained small quantities of aloes, but that the chief constituent was sulphate of quinine. Among the eight women there were two abortions possibly attributable to quinine; in one case the dose was about 8 grains, in the other about 14 grains. The prisoner was acquitted, as it could not be proved that he had given a "noxious thing." The only doses of quinine which could be satisfactorily proved were too small to rank as such. The writers of the paper discussed three points in connection with this case. First, the evidence showing that quinine in full doses sometimes possesses an ecbolic action was submitted; second, the meaning of the term "noxious thing" was examined; and lastly, it was suggested that the law relating to criminal abortion needs amendment, since as at present interpreted it lays stress upon the means employed rather than upon the criminal intent of the act.—Dr. FORTESCUE-BRICKDALE, whose remarks were illustrated by lantern slides, called attention in the first place to the very careful and accurate experiments of Cushny on the action of drugs on the uterus. Quinine was by these experiments shown to have a very definite action, especially on rabbits, in producing uterine contractions, even in the virgin organ. The action was further shown to be on the muscle cells directly, and not on the myoneural junction. He then pointed out that from the chemical side quinine and cinchonine belonged to the group of alkaloids derived from quinoline, of which also

strychnine was a member, though its exact constitution was not known. This alkaloid was credited with an action on the uterus.[1] *Iso*-quinoline, an isomer, was the nucleus of an allied group of alkaloids containing hydrastine, hydrastinine and cotarnine, which were often credited with the power of stimulating contractions, though satisfactory experimental evidence was not at present forthcoming. Cotarnine phthalate, known commercially as styptol, was employed as a uterine stimulant.—The PRESIDENT referred to the idiosyncrasy of patients with respect to the toleration of quinine. For example, a dose of one grain would act as a "noxious thing" upon some persons.—Mr. CHARLES CORFIELD said that many instances occurred in everyday life showing how difficult it was to frame an "act" which would leave no delinquents outside its scope. Dr. Coombs suggested that the law on this matter should be made more comprehensive. There was danger, however, that the law might conceivably be so wide as to make every man who dispensed a bottle of medicine liable to come within the reach of its indictment. The existing Act marked an improvement on the old common law, in that it included as a criminal any person who knowingly supplied the noxious drug or instrument. Two other interesting points in connection with the law were that pregnancy was not material, and that no person could be convicted on the uncorroborated evidence of an accomplice.—Dr. WALTER SWAYNE was much interested in the papers which had been read, for he had been extremely sceptical as to the power of any drug to induce abortion. He had had many times to induce it, and often succeeded only with difficulty. He thought the idiosyncrasy might be uterine, the uterus having in some cases a greater tendency to empty itself than in others. The majority of abortifacients did not contain ecbolics; many were purgatives; others had contents with no action at all. It was difficult to explain how patients aborted after taking harmless drugs. The expelled ovum was quite exceptionally a normal one. At the Bristol Royal Infirmary quinine was given in fairly large doses when labour was slow. No toxic symptoms were produced, but in a fair proportion of cases uterine action was strengthened. Dr. STACK thought that harmless drugs were given after using a catheter, and in this way seemed to produce abortion.—Dr. G. PARKER said that noxious things must be given in sufficient amount to come under the Act, whatever substance was used. He thought the decision in the present case was that a sufficient amount of quinine had not been given to be efficacious.—Mr. C. W. J. BRASHER pointed out there was no means of proving that the women who had aborted had not taken other things of a noxious kind.—Dr. SHINGLETON SMITH thought the combination of quinine with other things, such as aloes, made a more effective ecbolic, and thought the ecbolic

[1] Lauder Brunton, 1887; Ringer and Sainsbury, 1897; Stevens, 1903.

action of quinine had been exaggerated. Years ago large doses of quinine were given frequently as an anti-pyretic, *e.g.* thirty to forty grains within an hour, and had improved the patient's condition.—Dr. WALLACE pointed out the importance of proving intent when abortifacients had been administered and resulted in injury.—Dr. K. WILLS asked whether or not some of the effects of abortifacients was not due to suggestion.—Dr. COOMBS, replying, said that evidence from half a dozen sources showed that abortion had occurred after a dose of ten grains of quinine If ten grains could act in this way, why could not eight or nine grains ? The law seemed to require proof that the drug acted in this way in the majority of cases. The intent, he agreed, was a most important consideration.

The Secretary, Dr. J. A. Nixon, read a paper by Dr. J. O. SYMES on a fatal case of **Anterior Polio-myelitis.** The patient, a boy of sixteen years of age, had a sudden febrile attack with headache lasting about twenty-four hours. A week later the boy, who meanwhile had returned to school, again had fever and headache, and the left arm became paralysed. A day or two later the left shoulder also became paralysed, and later the right upper arm, and then the diaphragm. On the sixth day of illness the patient died. There was no paralysis of the lower extremities. Photophobia present, but no optic neuritis. The writer pointed out that to regard such affections as spinal was to take too limited a view. Evidence was accumulating which showed that the poison attacked the nervous system generally.

Dr. WALKER HALL gave a lantern demonstration of sections from the spinal cords of cases of **Anterior Polio-myelitis** and **Landry's Paralysis.**—Dr. MICHELL CLARKE, who had seen Dr. Symes' case, said that there had been no affection of sensation. Babinski's reflex had been present. Buzzard had shown that this reflex was obtained in these cases from spreading of the poison into the lateral tracts from the grey matter. The expression Landry's Paralysis should be regarded as a clinical term including a variety of acute paralytic diseases. He enumerated the diseases it included, and stated that toxins injected into the sciatic nerve passed into the spinal cord or canal.—Dr. CHARLES said there was no doubt that the so-called Landry's Paralysis included many varieties of disease.—Dr. PARKER said he had seen eleven cases of anterior polio-myelitis recently, and alluded to epidemics of the affection which had been recorded in America and Norway.—Dr. NIXON thought it remarkable that during the time these cases of acute spinal disease had been observed in this district he had had more cases of shingles than ever before. He thought there might be a common agent for the two affections.—Dr. ALEXANDER cited worm fever as an illustration of how a toxin produced in the intestinal tract might affect the nervous system.

January 12th, 1910.

Dr. JAMES SWAIN, President; in the Chair.

Dr. J. R. CHARLES read a paper on **Cases of B. Coli Infection.** (*Vide* p. 23.) The PRESIDENT thought that cases of acid bacilluria were not so successfully treated with urotropine as cases of the type described by the speaker, and mentioned a case with acute vesical symptoms which disappeared under treatment with B. Coli vaccines.—Mr. HEY GROVES said there were three groups of cases of B. Coli infection of the urinary tract, those of the type described in the paper just read, those alluded to by the President, and those in which pyonephrosis resulted. In the latter group, which comprised the cases best suited for operative treatment, often there was a large renal swelling without marked urinary symptoms. He cited three examples in which nephrectomy had been performed.—Dr. EMRYS ROBERTS asked if the speaker had experience of vaccine treatment in these cases. He thought the vaccine treatment was valuable, and it seemed good to gradually work up to a hundred-million dose.—Mr. MUNRO SMITH alluded to infection of the urinary tract from the peritoneum and from the rectum.—Dr. CAREY COOMBS said that cases like those described by Dr. Charles were sometimes met with in children. The symptoms were worse than the urinary findings would suggest. Urotropine failed to relieve them. Full doses of citrate of potash were successful.—Dr. MUNRO discussed the treatment of mixed urinary injections, from cocci, colon bacilli and tubercle bacilli, with urotropine, vaccines and tuberculin, and also with serum. Vaccines did no harm, serums occasionally did.—Dr. MICHELL CLARKE pointed out that the class of case under discussion provided another possible explanation of fever in obscure cases.—Dr. ALEXANDER mentioned a case of urinary infection followed by jaundice.

Mr. C. F. WALTERS read a paper on a **Jejunal Ulceration, not post-operative.** He described the case of a man, aged forty-three, who died from perforation of a jejunal ulcer. Fourteen large ulcers were found in the jejunum, some of them on the point of perforating. The spleen contained two encephaloid swellings which proved to be lympho-sarcomata. The speaker had found very few cases recorded in literature.—Mr. ROGER WILLIAMS said that with the growths in the spleen the blood condition must have been defective, and erosions of mucous membrane might have arisen from that.—Dr. NIXON drew attention to the way in which the patient had described his colicky pain. He pointed to one spot in the epigastrium where the pain started, and from which it passed in a circular manner near the umbilicus.—The PRESIDENT mentioned a case he had had some years previously in which he evacuated sixty ounces of fluid from a

woman's abdomen and drained. Subsequently grape skins escaped, and bile, acids, etc. Finally an ulcer in the upper jejunum was closed by suture. The patient recovered.

Mr. ROGER WILLIAMS read a paper on **Malignant and non-malignant Tumours of Bilateral Origin.** He said that until in his recent publication on the *Natural History of Cancer* he specially called attention to this subject by making a synthesis of many cases—which was the first of its kind—very little was heard among pathologists as to the bilateral origin of tumours. Yet no theory of neoplasia which failed to take into account this peculiarity could be regarded as really satisfactory. The now well-established fact of the bilateral origin of tumours, although only an occasional occurrence, certainly indicated that tumour-disease was something more than the manifestation of solitary local aberration. He thought there could be no doubt that the activities of the local cells were largely conditioned by the totality of the forces which determine the integration of the whole organism; and the bilateral origin of tumours specially pointed to perturbation of these latter forces. In many anomalies, but specially in digital redundancy, when two or all four extremities might be simultaneously affected, we had an analogous condition; an underlying developmental disturbance of this general kind was probably the determining factor of most cases of bilateral tumour formation. It accorded with this that most bilateral tumours originated in early life, many of them being obviously the outcome of gross developmental irregularity of antenatal origin. With regard to non-malignant tumours, many remarkable instances of bilaterality, some of which were symmetrical, were cited, comprising papillomas, angiomas, moles, fibromas, odontomas, myomas, adenomas, lipomas, chondromas, osteomas, dermoid and other cysts.

Passing then to the malignant tumours, reference was made to cases of bilateral origin in the mamma, Fallopian tubes, ovary, testis, kidney, adrenal, eye, face, jaws, external ear and extremities; the connection of these malignant instances with obvious developmental irregularity being specially indicated.

It was evident from the foregoing that the bilateral outbreak of tumour disease, in paired organs, was less exceptional than was generally believed, even when liberal allowance had been made for possible sources of error.—Dr. MICHELL CLARKE alluded to polycystic disease of the kidneys, which he considered an instance of typical bilateral tumour formation. Probably they were adenomata and not always congenital. In von Recklinghausen's Disease the symmetry was not marked.—Dr. NIXON alluded to the fact that glioma of the retina was bilateral in one case in five. The age of occurrence showed that it was almost certainly congenital. Only in one case had continuity by the optic nerves been traced. No other form of tumour was so frequently bilateral.

February 9th, 1910.

Dr. JAMES SWAIN, President, in the Chair.

An address on **Radium : Some of its Physical and Therapeutic Properties** was given by Dr. J. MACKENZIE DAVIDSON. (*Vide* p. 1.) The thanks of the Society were given to Dr. Davidson for his most interesting and instructive address on the proposition of Mr. Richardson Cross and Dr. Shingleton Smith.

J. LACY FIRTH.
J. A. NIXON, *Hon. Sec.*

Obituary Notices.

RICHARD GEORGE WORGER, M.R.C.S.Eng., L.R.C.P.Lond., L.M.S.S.A.

MR. RICHARD GEORGE WORGER, M.R.C.S.Eng., L.R.C.P.Lond., L.M.S.S.A., died at his residence at Radstock on February 8th, in his thirty-eighth year. He took his L.S.A. in 1895, and his Conjoint diploma in 1896, and had an extensive practice in Radstock and the neighbourhood. He held Poor-Law appointments under the Clutton and Frome Boards of Guardians, was certifying factory surgeon for the district, and surgeon to the Post Office and Great Western Railway employees. He was greatly interested in ambulance work, and was captain in the 2nd S.W. Field Ambulance, R.A.M.C.T. He was an Associate of the Order of St. John of Jerusalem, the Prince of Wales having presented him with the decoration in June, 1909. Mr. Worger was very popular in the district, and much sympathy will be felt for his relatives. The funeral took place on February 11th, with full military honours.

THOMAS WEBSTER, M.R.C.S.Eng., L.R.C.P.Lond.

MR. THOMAS WEBSTER died at his residence at Redland on February 12th, at the advanced age of 91. He took his M.R.C.S.Eng. in 1858, and L.R.C.P.Lond. in 1866. He was Honorary Surgeon to the Redland Dispensary for a great many years. He formerly held the post of Surgeon to the Bristol Hospital for Diseases of Women and Children. Some years ago he published a report on the "Administration of the Paris Institution for Deaf and Dumb."

At the time of his death Mr. Webster was the oldest medical man in Bristol.

C. H. COLLINS, M.R.C.S., L.S.A.,
Chew Magna.

CHARLES HOWELL COLLINS died at Chew Magna on December 22nd, 1909, in his 87th year.

Born at Devizes in 1822, he came of an old Welsh family. His father, Robert Benjamin Collins, also a medical man, began practice in Chew Magna in 1824, and in that village the subject of this notice spent his long life. In his day there were few better known medical men in the neighbourhood of Bristol. His fine presence, courtly manners, thorough knowledge of his profession, and genuine kindness, inspired a confidence and love amongst his numerous patients rarely exceeded, and he had the faculty of retaining friendships once made.

He studied medicine at the Bristol School and St. Bartholomew's Hospital, qualifying M.R.C.S., L.S.A., in 1846, and by the death of his father in the same year had to take over the practice at Chew Magna.

He was Medical Officer of the Clutton Union, Surgeon to the Odd Fellows and other clubs, and at one time or another held all the appointments open to him.

He was President of the Bath and Bristol Branch of the British Medical Association as long ago as 1869, took a keen interest in professional matters to the very last, and kept himself well abreast of the times.

He was also much interested in all matters that he thought were for the good of the district, and took an active part in church and educational affairs. He was a thorough sportsman and supporter of all agricultural interests.

Maintaining his intellectual activity to the last, his stories of medical life and practice in Bristol were most interesting. He thought his successor had a much easier time of it getting over the district in a motor than he had in the saddle.

His funeral at Chew Magna on December 27th was largely attended, and "the old doctor" will be missed and mourned for many a day by numbers who were proud to call him friend.

Local Medical Notes.

University of Bristol.—FACULTY OF MEDICINE:—

EXAMINATION SUCCESSES.

LONDON UNIVERSITY. — *First Examination for Medical Degrees:* H. J. McCurrich, H. J. D. Smythe.

M.D. (Medicine): J. F. Blackett.

CONJOINT BOARD.—*Materia Medica:* R. S. S. Statham. *Anatomy and Physiology:* W. Worger. *Medicine:* B. C. Eskell, H. R. B. Hull, R. S. S. Statham. *Surgery:* S. H. Kingston.* *Midwifery:* V. Pinnock, C. H. Hart, W. A. Reynolds.

F.R.C.S.IRELAND.—M. G. Dobbyn.

APPOINTMENTS.

Boulter, W. E., L.D.S.Eng.—Honorary Dental Surgeon to the Queen Victoria Jubilee Convalescent Home.

Aubrey, T., M.B.Lond.—Medical Officer of Health for the Warmley District Council.

Pinniger, W. J. H., M.B., B.S.Lond.—Medical Officer to Müller's Orphan Houses, Bristol.

Annan, John Laing, M.B., Ch.B.Edin.—Demonstrator of Anatomy.

Burridge, William, B.A.Oxon.—Demonstrator of Physiology.

BRISTOL.

University of Bristol.—*Ordinances and Regulations.*—Some of our readers may not be aware that provisional ordinances and regulations for degrees, certificates and diplomas have been issued, and can be obtained from the Registrar. It will be noted that allowances are made for old Bristol students who are already qualified.

Bristol Eye Hospital.—The annual meeting of this institution was held on February 3rd, and presided over by the Lord Mayor, who, in commenting upon the excellent report, called attention to the number of patients who resided in outlying towns and villages, and he thought the Hospital Sunday Fund should benefit more from these places. During 1909 there were 441 in-patients and 8,628 out-patients. There was a balance of £1,100 due to the treasurer. Attention was called to the Fête which was to be held in the Zoological Gardens in the summer, in aid of the Eye Hospital.

Queen Victoria Jubilee Convalescent Home.—At the annual meeting, held recently, the medical report stated that during 1909 1,847 patients had been admitted, 1,016 males and 831 females; of this number the Royal Infirmary had sent 611 and the General Hospital 652; 334 were free patients, 148 paying patients, 68 from the Bristol Dispensary, 17 from the Clifton Dispensary, and 17 from the Eye Hospital. The average daily number was 79, and the average stay just over 15 days. The total income for the year amounted to £3,174, and the expenditure to £2,839.

* Completes examination.

Bristol Dispensary.—During 1909 10,993 patients were treated at this institution, and 687 midwifery notes were issued, an increase of 151 over the preceding year. These notes guarantee the provision of trained midwives, and of medical aid when required. The annual expenditure exceeded the income by £22, but there was a balance in hand of £130.

Clifton Dispensary.—The ninety-seventh annual report of this useful institution stated that 2,327 patients had been treated during 1909, including 74 midwifery cases. At the close of the year a small unfavourable balance remained.

BATH.

Royal United Hospital.—The annual report of this institution shows that during 1909 there were 1,385 in-patients as against 1,298 in the preceding year, and 14,155 out-patients were treated, compared with 13,765 in 1908. 279 patients were visited at their homes. At the close of the year there was a deficit of £634.

PLYMOUTH.

At the annual meeting of the **Plymouth Ear and Throat Hospital,** held recently, the medical report showed that during 1909 1,013 patients had been treated. A favourable balance was shown by the financial statement. It was resolved to adopt the suggestion of the Committee, and to proceed with a scheme for rebuilding the institution. The first section of the scheme is estimated to cost about £1,000.

Royal Eye Infirmary.—During 1909 the out-patients attending this institution numbered 2,372 (an increase of 128 over 1908), and 300 in-patients had been admitted, as against 278 in the preceding year. The daily average of in-patients was 24. The financial statement showed that with an income of £1,845 a favourable balance remained.

WESTON-SUPER-MARE.

At a special meeting of the Committee of Management of the **Royal West of England Sanatorium,** held at the end of 1909, it was decided to admit no more patients suffering from pulmonary tuberculosis. The institution was closed during November and December, and thoroughly disinfected and cleansed, at a cost of £400, and in January the institution was reopened for the admission of patients.

Health Report.—The Medical Officer of Health, in his report for 1909, estimates the population at 23,500; the death-rate was 11.74 per 1,000. Exclusive of visitors, the death-rate was 10.6 per 1,000.